VioStor NVR

Network Video Recorder

User Manual (Version: 3.3.1)

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Thank you for choosing QNAP products! This user manual provides detailed instructions of using the product. Please read carefully and start to enjoy the powerful functions of the product!

- **VioStor NVR** is hereafter referred to as **VioStor**.
- This manual provides the description of all the functions of VioStor NVR. The product you purchased may not support certain functions dedicated to specific models.

Legal Notices

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CAUTION

1. Back up your system periodically to avoid any potential data loss. QNAP disclaims any responsibility of all sorts of data loss or recovery.
2. Should you return any components of the product package for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.

Important Notice

- Reading instructions
  Please read the safety warnings and user manual carefully before using this product.
- Power supply
  This product can only be used with the power supply provided by the manufacturer.
- Service
  Please contact qualified technicians for any technical enquires. Do not repair this product by yourself to avoid any voltage danger and other risks caused by opening this product cover.
- Warning
  To avoid fire or electric shock, do not use this product in rain or humid environment. Do not place any objects on this product.

Regulatory Notice

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Shielded interface cables, if any, must be used in order to comply with the emission limits.

CE NOTICE

Class B only.

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Safety Warning

1. This product can operate normally in the temperature of 0ºC–40ºC and relative humidity of 0%–90%. Please make sure the environment is well-ventilated.
2. The power cord and devices connected to this product must provide correct supply voltage.
3. Do not place this product in direct sunlight or near chemicals. Make sure the temperature and humidity of the environment are in optimized level.
4. Unplug the power cord and all connected cables before cleaning. Wipe this product with a wet towel. Do not use chemical or aerosol to clean this product.
5. Do not place any objects on this product for the server's normal operation and to avoid overheat.
6. Use the flat head screws in the product package to lock the hard disks in this product when installing hard disks for proper operation.
7. Do not place this product near any liquid.
8. Do not place this product on any uneven surface to avoid falling off and damage.
9. Make sure the voltage is correct in your location when using this product. If you are not sure about the voltage, please contact the distributor or the local power supply company.
10. Do not place any object on the power cord.
11. Do not attempt to repair this product in any occasions. Improper disassembly of the product may expose you to electric shock or other risks. For any enquiries, please contact the distributor.
12. The chassis models should only be installed in the server room and maintained by the authorized server manager or IT administrator. The server room is locked by key or keycard access and only certified staff is allowed to enter the server room.

Warning:

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- Do NOT touch the fan inside the system to avoid serious injuries.

Chapter 1. Introduction

1.1 Overview

QNAP VioStor (hereafter referred to as NVR or VioStor) is the high performance network surveillance solution for network-based monitoring of IP cameras, video recording, playback, and remote data access. Up to 120 channels from multiple QNAP NVR servers can be monitored simultaneously. VioStor supports IP-based cameras and video servers from numerous brands, for more information please visit http://www.qnapsecurity.com/pro_compatibility_camera.asp.

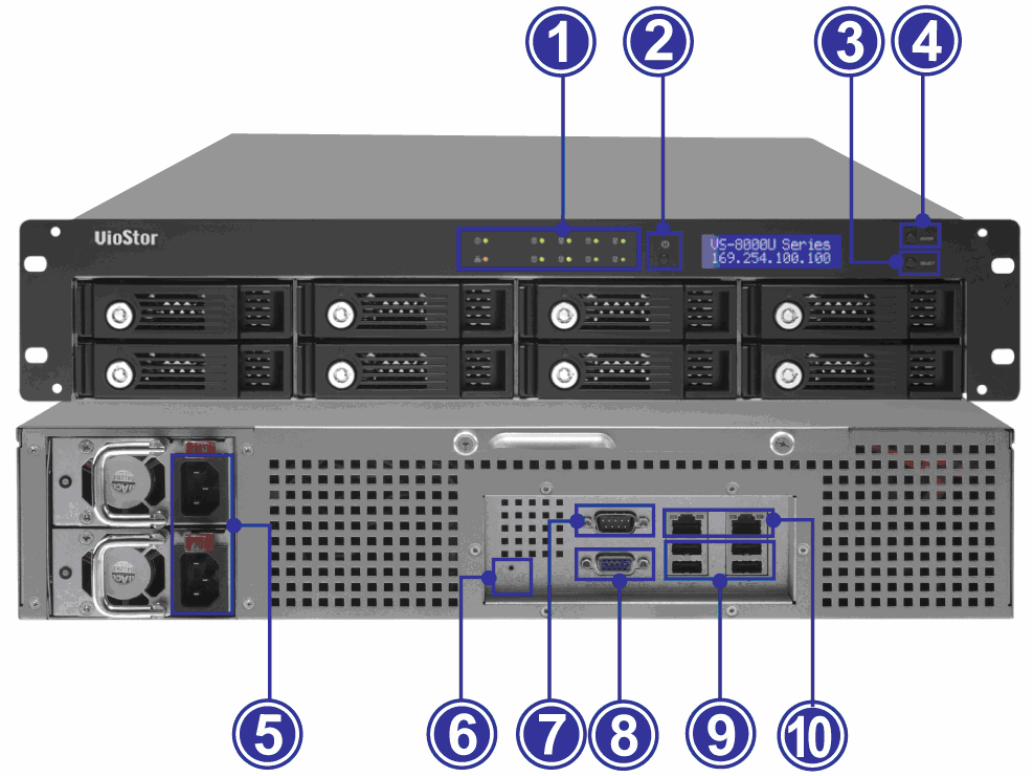
VioStor supports video recording in H.264, MxPEG, MPEG-4, or MJPEG video compression. The NVR offers diversified display modes and recording features, e.g. schedule recording, alarm recording, alarm recording schedule. The NVR also supports data search by date and time, timeline, event, and intelligent video analytics (IVA), including motion detection, missing object, foreign object, out of focus, and camera occlusion. All the functions can be configured by the IE web browser.

VioStor Pro Series NVR is the world's first Linux-based NVR capable of truly PC-less quick configuration, monitoring of IP cameras over the network, and video playback via the VGA connector. You can connect a high-definition (HD) VGA monitor or TV, and a USB mouse (optional), USB keyboard (optional), and a USB sound card (optional) to the NVR to manage surveillance system.

* The MxPEG video compression feature is not supported by the VS-201, VS-101, NVR-104.

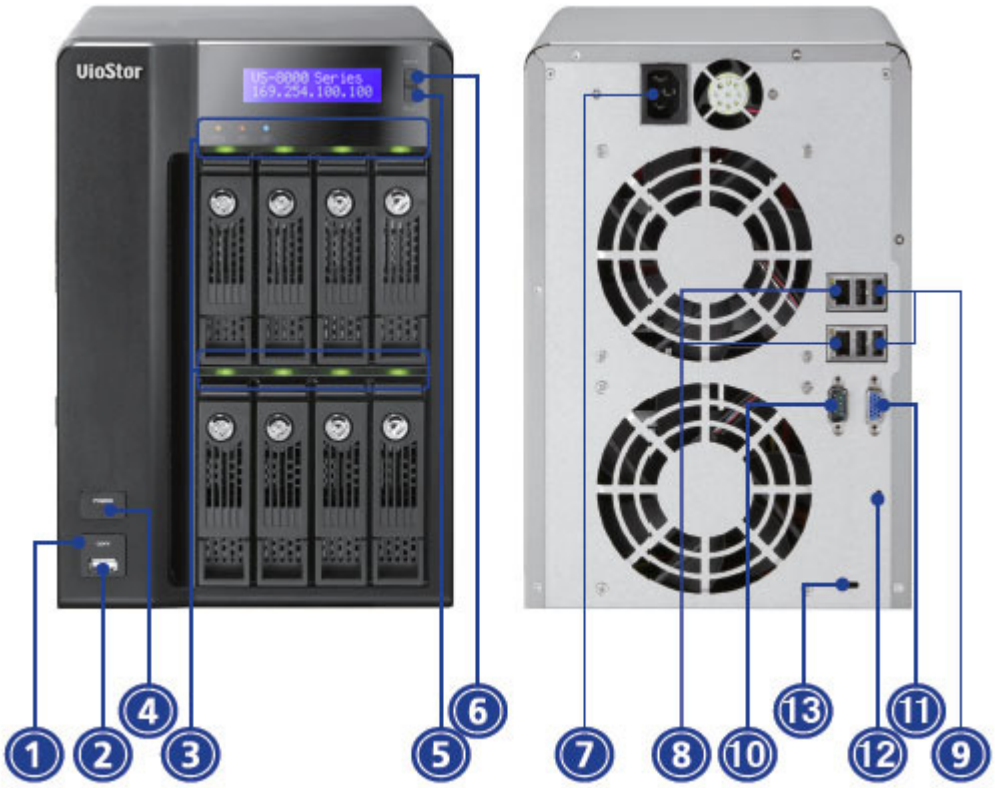
1.2 Hardware Illustration

1.2.1 VS-8040U-RP/VS-8032U-RP/VS-8024U-RP



1. LED indicators: Status, LAN, USB, HDD1–8
2. Power button
3. Select button
4. Enter button
5. Power connector
6. Password & network settings reset button
7. RS-232
8. VGA
9. USB x 4
10. Giga LAN x 2

1.2.2 VS-8040/VS-8032/VS-8024



1. One touch auto video backup button
2. USB
3. LED indicators: Status, LAN, USB, HDD1–8
4. Power button
5. Select button
6. Enter button
7. Power connector
8. Giga LAN x 2
9. USB x 4
10. RS-232
11. VGA
12. Password & network settings reset button
13. Kensington security slot

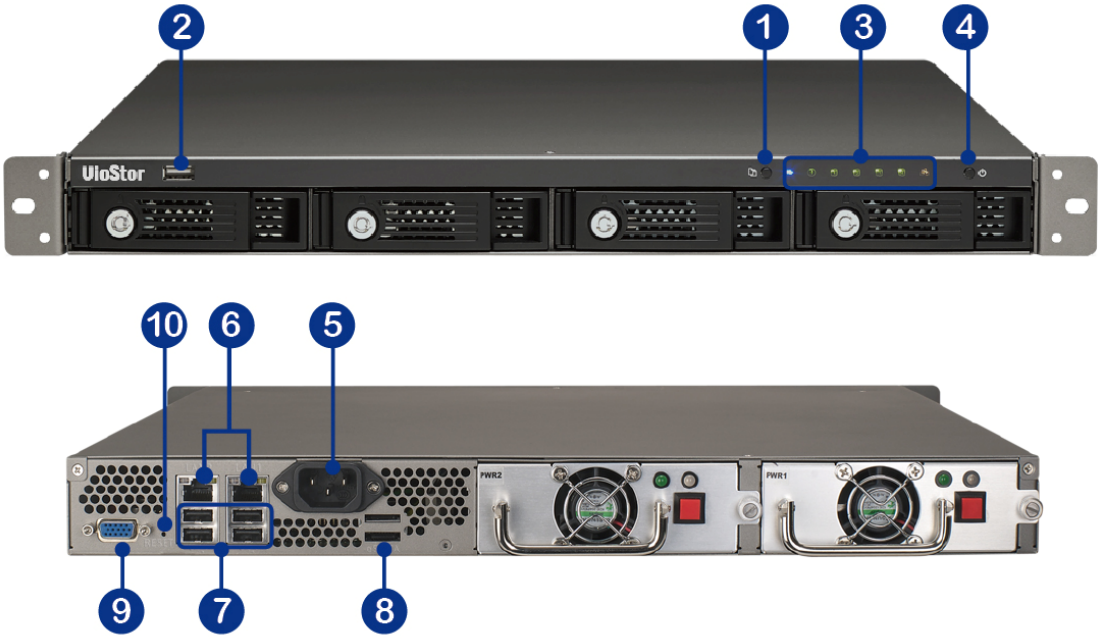
1.2.3 VS-6020 Pro/VS-6016 Pro/VS-6012 Pro

1. One touch auto video backup button
2. USB
3. LED indicators: Status, LAN, USB, eSATA, HDD1–6
4. Power button
5. Select button
6. Enter button
7. Power connector
8. Giga LAN x 2
9. USB x 4
10. eSATA x 2 (reserved)
11. VGA
12. Password & network settings reset button
13. Kensington security slot

1.2.4 VS-5020/VS-5012

1. One touch auto video backup button
2. USB
3. LED indicators: USB, Status, HDD1–5, LAN
4. Power button
5. Select button
6. Enter button
7. Power connector
8. Giga LAN x 2
9. USB x 4
10. eSATA (reserved)
11. VGA
12. RS-232 port
13. Password & network settings reset button
14. Kensington security slot

1.2.5 VS-4016U-RP Pro/VS-4012U-RP Pro/VS-4008U-RP Pro

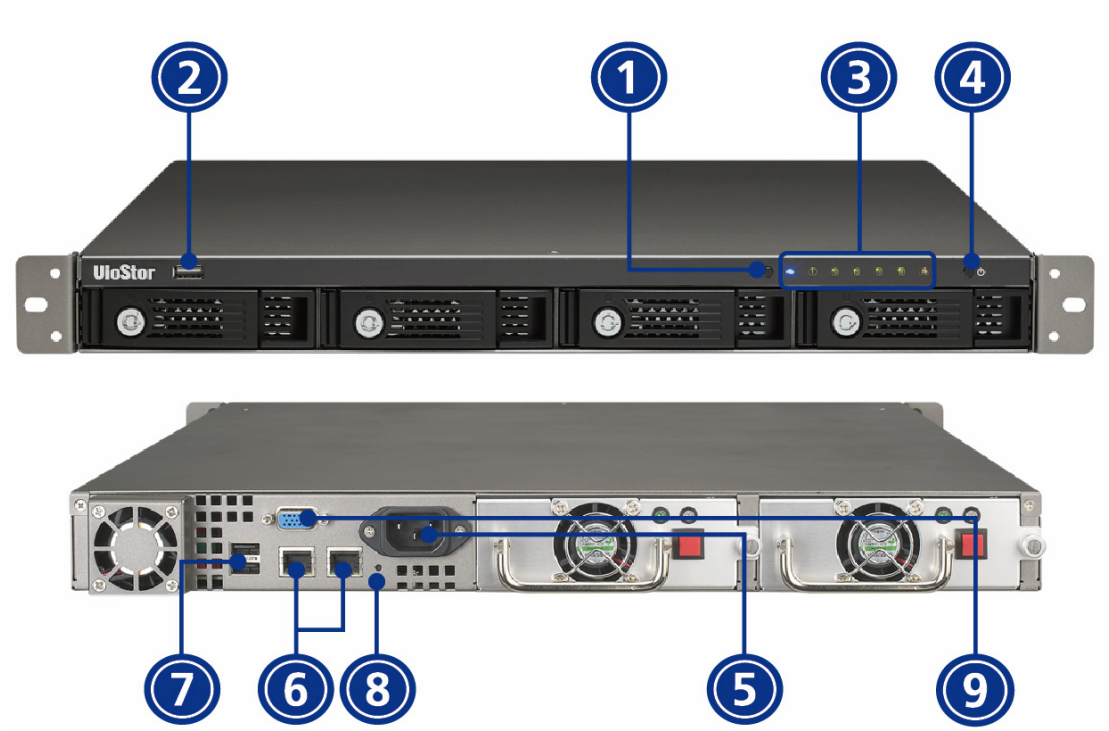


1. One touch auto video backup button
2. USB
3. LED indicators: Status, LAN, USB, eSATA, HDD1–4
4. Power button
5. Power connector
6. Giga LAN x 2
7. USB x 4
8. eSATA x 2 (reserved)
9. VGA
10. Password & network settings reset button

1.2.6 VS-4016 Pro/VS-4012 Pro/VS-4008 Pro

1. One touch auto video backup button
2. USB
3. LED indicators: Status, LAN, USB, eSATA, HDD1–4
4. Power button
5. Select button
6. Enter button
7. Power connector
8. Giga LAN x 2
9. USB x 4
10. eSATA x 2 (Reserved)
11. VGA
12. Password & network settings reset button
13. Kensington security slot

1.2.7 VS-4016U-RP

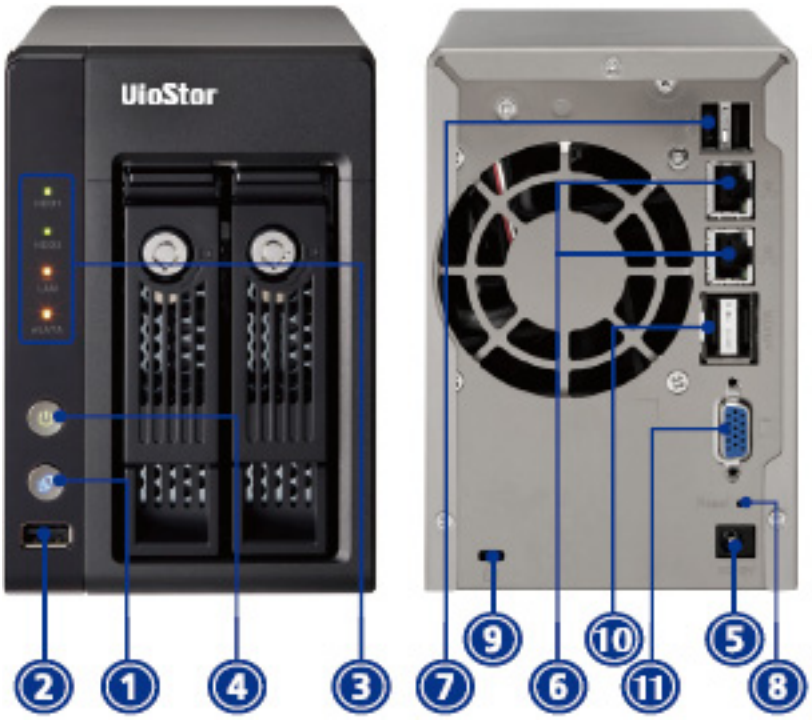


1. One touch auto video backup button
2. USB
3. LED indicators: USB, Status, HDD1–HDD4, LAN
4. Power button
5. Power connector
6. Giga LAN x 2
7. USB x 2
8. Password & network settings reset button
9. VGA

1.2.8 VS-2012 Pro/VS-2008 Pro

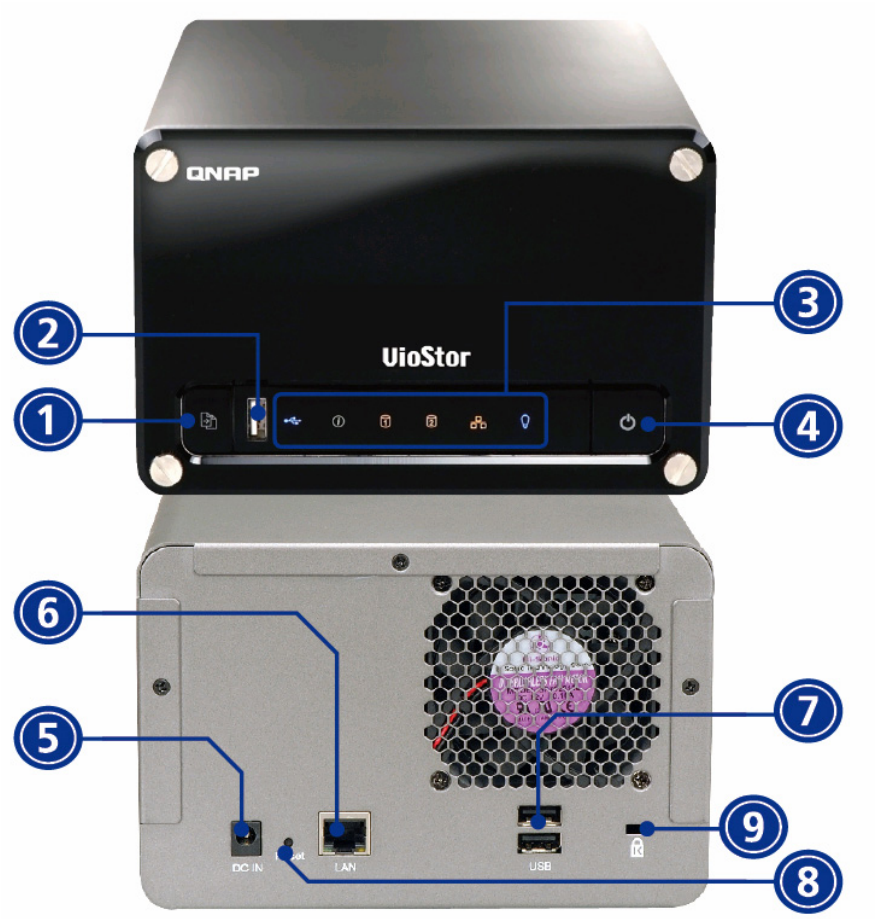
1. One touch auto video backup button
2. USB
3. LED indicators: HDD1, HDD2, LAN, eSATA
4. Power button
5. Power connector
6. Giga LAN x 2
7. USB x 2
8. eSATA x 2 (reserved)
9. VGA
10. Password & network settings reset button
11. Kensington security slot

1.2.9 VS-2012/VS-2008



1. One touch auto video backup button
2. USB
3. LED indicators: HDD1, HDD2, LAN, eSATA
4. Power button
5. Power connector
6. Giga LAN x 2
7. USB x 2
8. Password & network settings reset button
9. Kensington security slot
10. eSATA x 2 (reserved)
11. VGA

1.2.10 VS-201P/V



1. One touch auto video backup button
2. USB
3. LED indicators: USB, status, HDD1, HDD2, LAN, and power
4. Power button
5. Power connector
6. Giga LAN
7. USB x 2
8. Password & network settings reset button‼
9. Kensington security slot

1.2.11 NVR-104P/V

1. One touch auto video backup button
2. USB
3. LED indicators
4. Power button
5. USB x 2
6. eSATA port
7. Giga LAN
8. Password & network settings reset button
9. Power connector
10. Kensington security slot

1.2.12 VS-101P/V

1. One touch auto video backup button
2. USB
3. LED indicators
4. Power button
5. Power connector
6. Giga LAN
7. USB x 2
8. Password & network settings reset button
9. Kensington security slot
10. eSATA port (reserved)

Chapter 2. Install VioStor

For the information of hardware installation, see the 'Quick Installation Guide' (QIG) in the product package. You can also find the QIG in the product CD-ROM or QNAP website (http://www.qnapsecurity.com/).

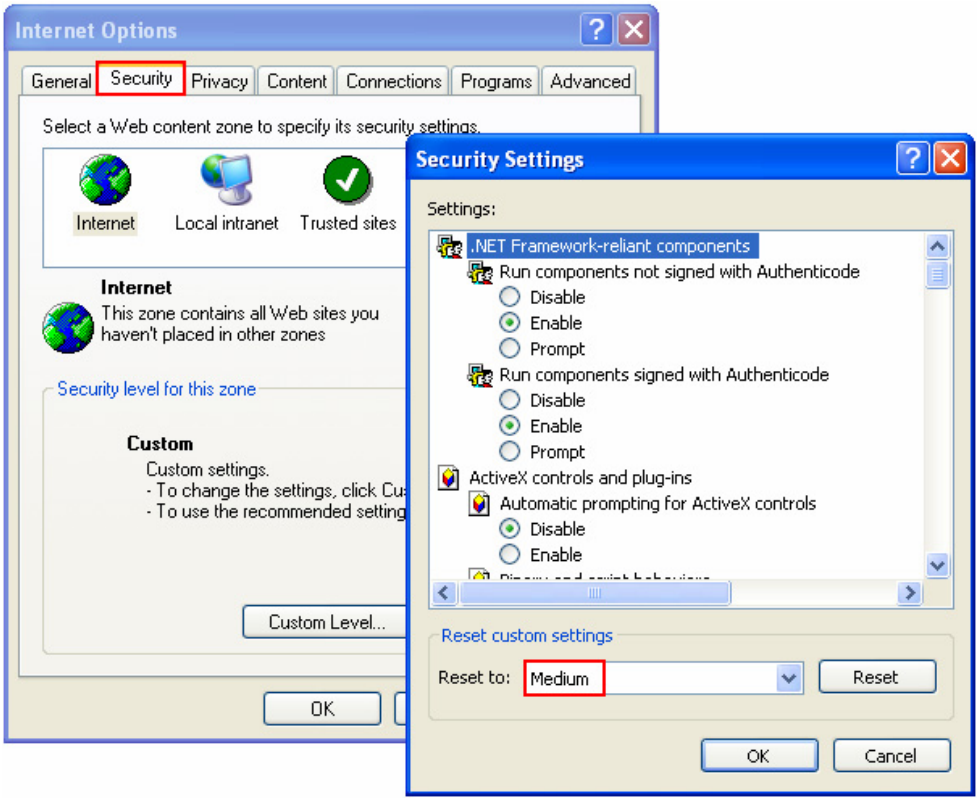
2.1 Personal Computer Requirements

For better system performance, your computer should at least fulfil the following requirements:

No. of Channels	Format	CPU	Others
4	M-JPEG	Intel Pentium 4 CPU, 2.4GHz or above	• Operation system: Microsoft Windows 7, Vista, XP • Memory: 2GB or above • Network port: 100Mbps Ethernet port or above • Web browser: Microsoft Internet Explorer 6.0 or above • CD-ROM drive • Recommended resolution: 1024 x 768 pixels or above
	MPEG-4/MxPEG/H.264	Dual core CPU, 2.0GHz or above	
8	M-JPEG	Intel Pentium 4 CPU, 2.8GHz or above	
	MPEG-4/MxPEG/H.264	Dual core CPU, 2.4GHz or above	
12	M-JPEG	Intel Pentium 4 CPU, 3.0GHz or above	
	MPEG-4/MxPEG/H.264	Dual core CPU, 2.8GHz or above	
16	M-JPEG	Dual core CPU, 2.4GHz or above	
	MPEG-4/MxPEG/H.264	Quad core CPU, 2.33GHz or above	
20	M-JPEG	Dual core CPU, 2.6GHz or above	
	MPEG-4/MxPEG/H.264	Quad core CPU, 2.6GHz or above	
40	M-JPEG	Quad core CPU 2.33GHz or above	
	MPEG-4/MxPEG/H.264	Core i7 CPU 2.8GHz or above	

Security Settings of the Web Browser

Please make sure the security level of the IE browser in Internet Options is set to Medium or lower.

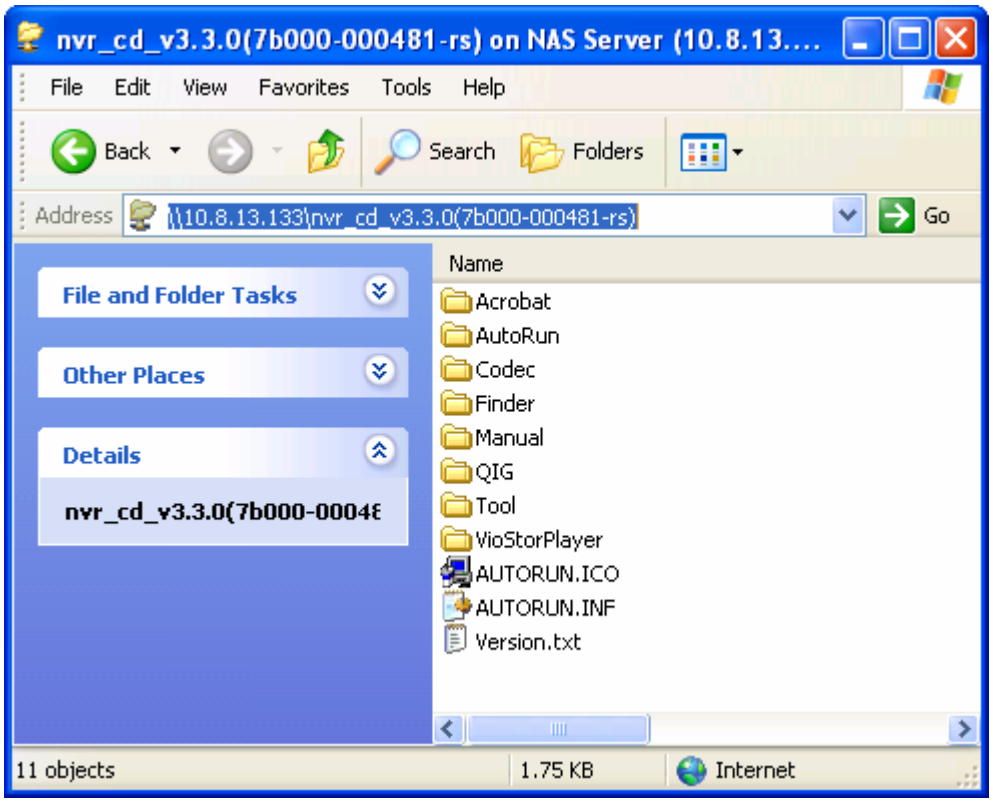


2.2 Browse the CD-ROM

Run the product CD-ROM on your Windows PC, you can view the Quick Installation Guide (QIG) and user manual, and install codec and software utilities Finder and VioStor Player.

You can browse the CD-ROM and access the following contents:

- Finder: The setup program of QNAP Finder. This tool is used to discover the NVR servers available on the local network and configure the network settings of the NVR.
- Manual: The user manuals of NVR.
- QIG: View the hardware installation instructions of NVR.
- Codec: The codec for playing AVI videos recorded by NVR on Windows Media Player.
- Tool: This folder contains IPP library and monitor plugin. If you failed to install the ActiveX plugin when connecting to the monitoring page of NVR by IE browser, you can install the plugin from the CD-ROM.
- VioStor Player: The setup program of VioStor Player, a tool to play the videos recorded by NVR. If you failed to install the VioStor Player when connecting to the playback page of NVR by IE browser, you can install the plugin from the CD-ROM.



2.3 Hard Disk Drives Compatibility List

This product works with 2.5-inch/3.5-inch SATA hard disk drives from popular hard disk brands. For the HDD compatibility list, please visit http://www.qnapsecurity.com/pro_compatibility.asp

QNAP disclaims any responsibility for product damage/malfunction or data loss/recovery due to misuse or improper installation of hard disks in any occasions for any reasons.

2.4 IP Cameras Compatibility List

For the information of supported IP camera models, please visit http://www.qnapsecurity.com/pro_compatibility_camera.asp

2.5 Check System Status

LED Display & System Status Overview

LED	Colour	LED Status	Description
System Status	**Red/ Green**	Flashes green and red alternately every 0.5 sec	1) The hard drive on the NVR is being formatted 2) The NVR is being initialised 3) The system firmware is being updated 4) RAID rebuilding is in process 5) Online RAID Capacity Expansion is in process 6) Online RAID Level Migration is in process
		Red	1) The hard drive is invalid 2) The disk volume has reached its full capacity 3) The disk volume is going to be full 4) The system fan is out of function* 5) An error occurs when accessing (read/write) the disk data 6) A bad sector is detected on the hard drive 7) The NVR is in degraded read-only mode (2 member drives fail in a RAID 5 or RAID 6 configuration, the disk data can still be read)# 8) (Hardware self-test error)
		Flashes red every 0.5 sec	The NVR is in degraded mode (one member drive fails in RAID 1, RAID 5 or RAID 6 configuration)*
		Flashes green every 0.5 sec	1) The NVR is starting up 2) The NVR is not configured 3) The hard drive is not formatted
		Green	The NVR is ready
		Off	All the hard drives on the NVR are in standby mode
LAN	**Orange**	Orange	The NVR is connected to the network
		Flashes orange	The NVR is being accessed from the network

HDD	**Red/ Green**	Flashes red	The hard drive data is being accessed and a read/write error occurs during the process
		Red	A hard drive read/write error occurs
		Flashes green	The hard drive data is being accessed
		Green	The hard drive can be accessed
USB	**Blue**	Flashes blue every 0.5 sec	1) A USB device is detected 2) A USB device is being removed from the NVR 3) The USB device connected to the front USB port of the NVR is being accessed 4) The NVR data is being copied to the external USB device
		Blue	The USB device connected to the front USB port of the NVR is ready
		Off	The NVR has finished copying the data to the USB device connected to the front USB port*
eSATA†	**Orange**	Flashes	The eSATA device is being accessed

* Not applicable to 1-bay models

† The eSATA port is available on certain models only. Please refer to http://www.qnapsecurity.com/ for more information.

4-bay models or above only

Beep Alarm (beep alarm can be disabled in 'System Tools' > 'Hardware Settings')

Beep sound	No. of Times	Description
Short beep (0.5 sec)	1	1) The NVR is starting up 2) The NVR is being shut down (software shutdown) 3) The user presses the reset button to reset the NVR 4) The system firmware has been updated
Short beep (0.5 sec)	3	The user tries to copy the NVR data to the external storage device from the front USB port, but the data cannot be copied.
Short beep (0.5 sec), long beep (1.5 sec)	3, every 5 min	The system fan is out of function*
Long beep (1.5 sec)	2	1) The disk volume is going to be full 2) The disk volume has reached its full capacity 3) The hard drives on the NVR are in degraded mode 4) The user starts the HDD rebuilding process
	1	1) The NVR is turned off by force shutdown (hardware shutdown) 2) The NVR has been turned on successfully and is ready

* Not applicable to 1-bay models

2.6 System Configuration

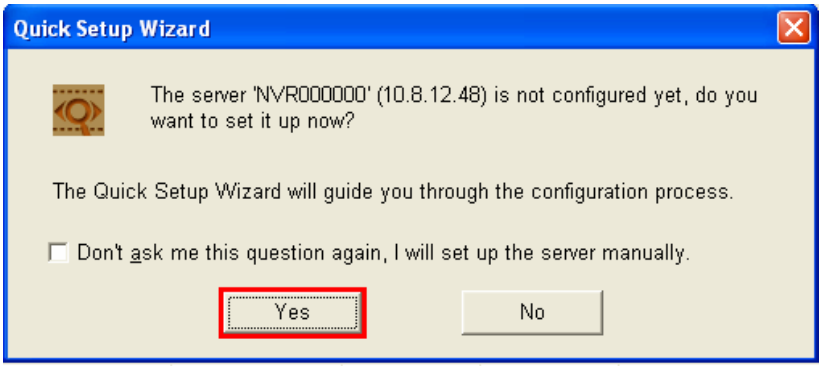
Install Finder

1. Run the product CD, the following menu is shown. Click 'Install Finder'.

2. Follow the instructions to install Finder. Upon successful installation, run Finder. If Finder is blocked by your firewall, unblock it.

3. Finder detects the VioStor servers on the local network. If the server has not been initialised, you will be prompted to perform quick setup. Click 'Yes' to continue.

Note: If VioStor is not found, click 'Refresh' to try again.


Quick Setup Wizard
The server 'NVR000000' (10.8.12.48) is not configured yet, do you want to set it up now?
The Quick Setup Wizard will guide you through the configuration process.
Don't ask me this question again, I will set up the server manually.
Yes
No

4. You must enter the administrator name and password to perform quick setup.

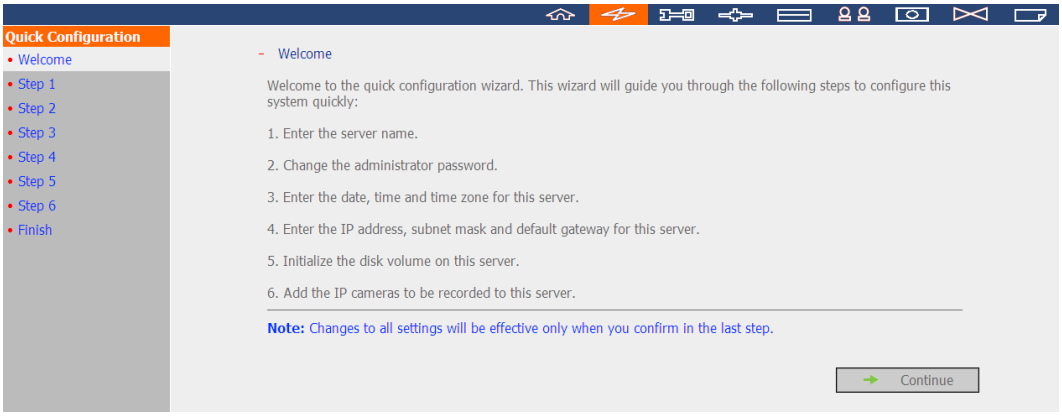
The default administrator name and password are as below:

Use name: **admin***
Password: **admin**

*If you are using the VS-201/VS-101/NVR-104, the default login name is 'administrator' and the login password is 'admin'.

Note: Make sure all the IP cameras are configured and connected to the network.

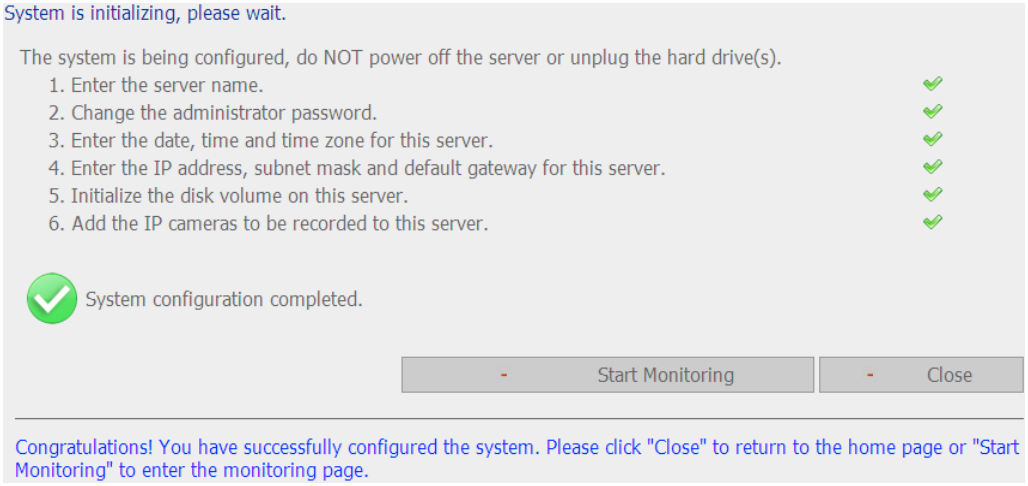
5. The quick configuration page will be shown. Click 'Continue' and follow the instructions to finish the configuration. For further information, please refer to Chapter 6.1.


Quick Configuration
• Welcome
• Step 1
• Step 2
• Step 3
• Step 4
• Step 5
• Step 6
• Finish
Welcome
Welcome to the quick configuration wizard. This wizard will guide you through the following steps to configure this system quickly:
1. Enter the server name.
2. Change the administrator password.
3. Enter the date, time and time zone for this server.
4. Enter the IP address, subnet mask and default gateway for this server.
5. Initialize the disk volume on this server.
6. Add the IP cameras to be recorded to this server.
Note: Changes to all settings will be effective only when you confirm in the last step.
Continue

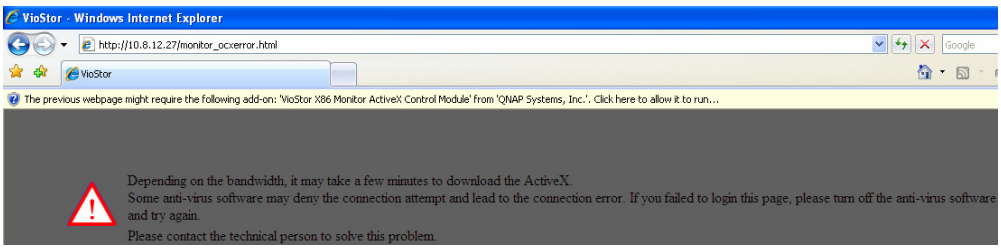
6. Click 'Start installation' to execute the quick configuration.

Finish
The changes you have made to the server are as below. Click "Start installation" to begin the quick configuration; or click "Back" to return to the previous steps to modify the settings.
Server Name : NVR
Password: The password is unchanged.
Time Zone : (GMT+08:00) Taipei
Time Setting: 2009/7/2 11:19:41
Network : Obtain TCP/IP settings automatically via DHCP
Primary DNS Server 10.8.2.11
Secondary DNS Server 10.8.2.9
IP Camera : You have configured 13 camera(s)
Disk configuration: Do not set disk configuration
Drive 1: WDC WD7500AACS-00D6B01.0 698.64 GB
Drive 2: WDC WD7500AACS-00D6B01.0 698.64 GB
Drive 3: WDC WD7500AACS-00D6B01.0 698.64 GB
Drive 4: WDC WD7500AACS-00D6B01.0 698.64 GB
Back
Start installation

7. After the quick configuration, you can start to use VioStor. Click 'Start Monitoring' to view the live video from the IP cameras or click 'Close' to return to the home page of the system administration.


System is initializing, please wait.
The system is being configured, do NOT power off the server or unplug the hard drive(s).
1. Enter the server name.
2. Change the administrator password.
3. Enter the date, time and time zone for this server.
4. Enter the IP address, subnet mask and default gateway for this server.
5. Initialize the disk volume on this server.
6. Add the IP cameras to be recorded to this server.
System configuration completed.
Start Monitoring
Close
Congratulations! You have successfully configured the system. Please click "Close" to return to the home page or "Start Monitoring" to enter the monitoring page.

8. The first time you connect to the monitoring page of VioStor, install the ActiveX add-on.


VioStor - Windows Internet Explorer
http://10.8.12.27/monitor_ocxerror.html
VioStor
The previous webpage might require the following add-on: 'VioStor X86 Monitor ActiveX Control Module' from 'QNAP Systems, Inc.'. Click here to allow it to run...
Depending on the bandwidth, it may take a few minutes to download the ActiveX.
Some anti-virus software may deny the connection attempt and lead to the connection error. If you failed to login this page, please turn off the anti-virus software and try again.
Please contact the technical person to solve this problem.

You can view the live video from the IP cameras configured on VioStor and the recording status of each channel.

Chapter 3. Use VioStor by Local Display

Note: This feature is supported by VioStor Pro Series NVR only. The models include VS-8040U-RP Pro, VS-8032U-RP Pro, VS-8024U-RP Pro, VS-8040 Pro, VS-8032 Pro, VS-8024 Pro, VS-6020 Pro, VS-6016 Pro, VS-6012 Pro, VS-4016U-RP Pro, VS-4012U-RP Pro, VS-4008U-RP Pro, VS-4016 Pro, VS-4012 Pro, VS-4008 Pro, VS-2012 Pro, VS-2008 Pro, VS-2004 Pro.

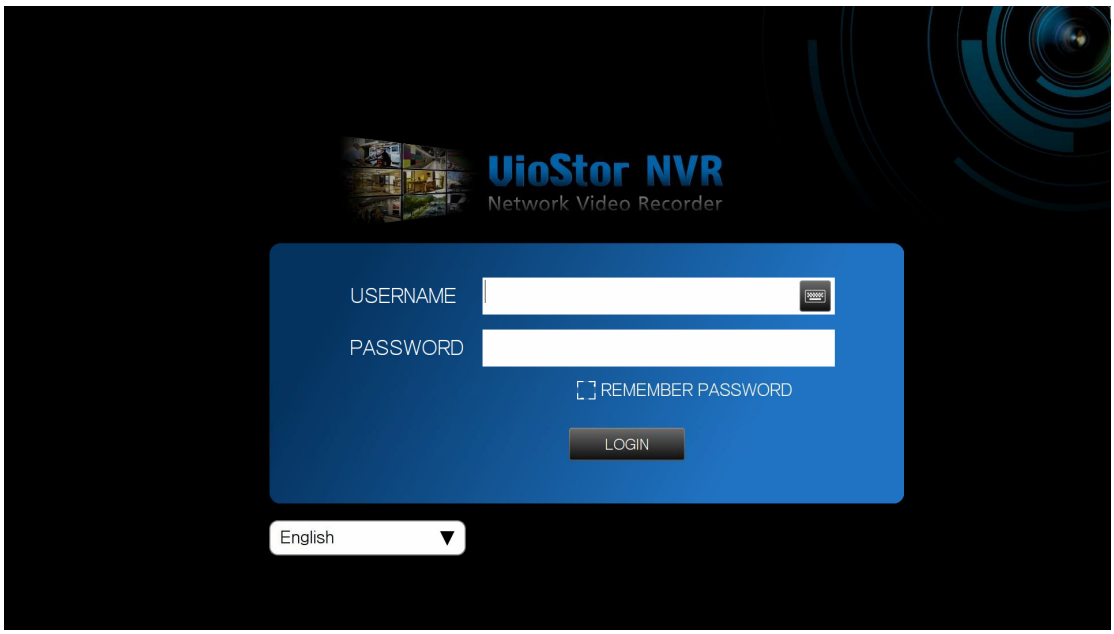
You can connect to VioStor by local display via the VGA connector to perform PC-less quick configuration, monitoring, and video playback. To use this feature, you need to do the following:

1. Make sure at least one hard disk drive has been installed on VioStor.
2. Connect VioStor to the network.
3. Make sure the IP cameras have been configured and connected to the network.
4. Connect a VGA monitor or TV (suggested video output resolution: 1920 x 1080)* to VioStor via the VGA connector.
5. Connect a USB mouse and a USB keyboard (optional) to VioStor via the USB ports.
6. Turn on VioStor.

*The local display feature supports maximum screen resolution of 2048*1536 (QXGA).

When VioStor is turned on, the login screen will be shown. Select the language. Enter the administrator name and password. If your VioStor has not been configured, skip the login page and enter Quick Configuration (refer to Chapter 3.1).

Default user name: admin Password: admin



Click the keyboard icon to enter the necessary information if you do not have a USB keyboard.

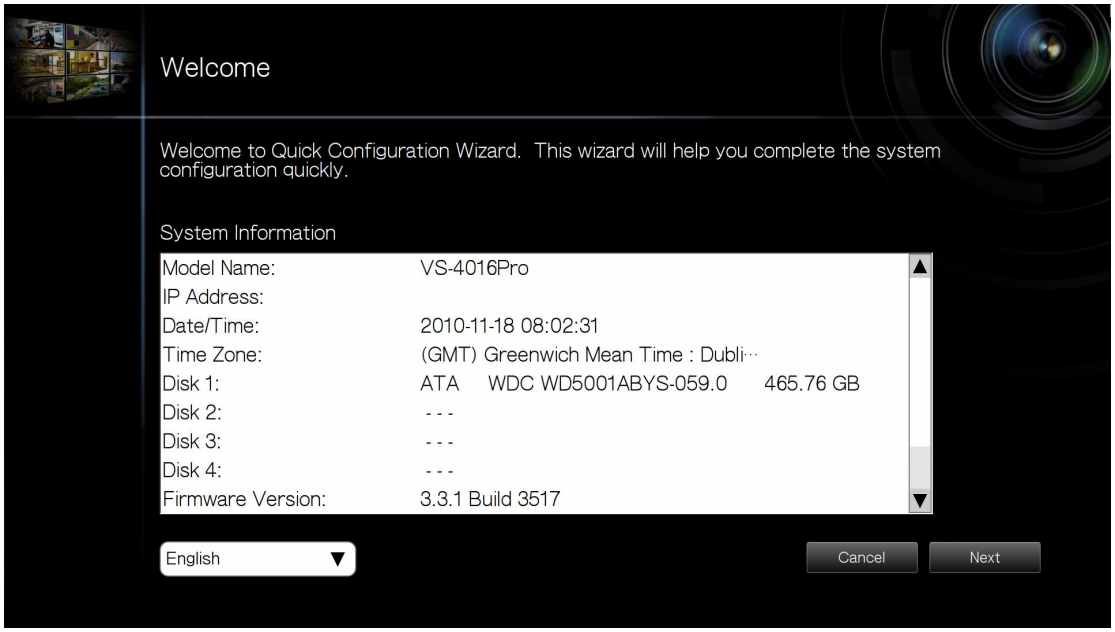
The monitoring page will be shown upon successful login, refer to Chapter 3.3 for details.

3.1 Quick Configuration

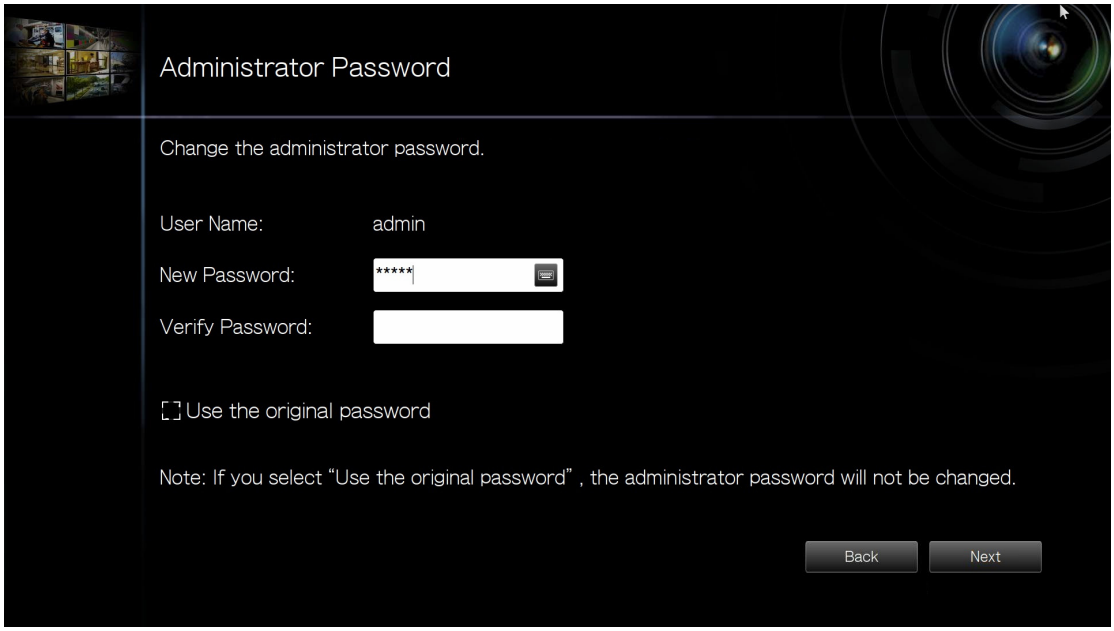
If the NVR has not been configured, Quick Configuration Wizard will be shown. Follow the instructions of the wizard to complete the system setup.

Note: All the changes will be effective only after you apply the settings in the last step.

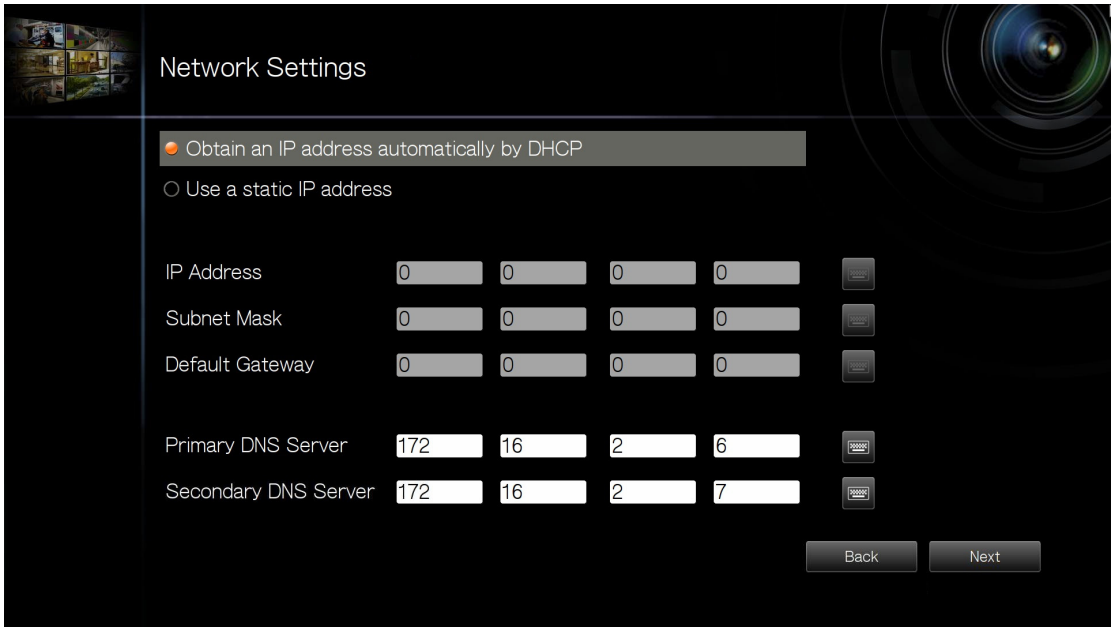
1. The system information will be shown. Select the language and click 'Next'.


Welcome
Welcome to Quick Configuration Wizard. This wizard will help you complete the system configuration quickly.
System Information
Model Name: VS-4016Pro
IP Address:
Date/Time: 2010-11-18 08:02:31
Time Zone: (GMT) Greenwich Mean Time : Dubli···
Disk 1: ATA WDC WD5001ABYS-059.0 465.76 GB
Disk 2: - - -
Disk 3: - - -
Disk 4: - - -
Firmware Version: 3.3.1 Build 3517
English
Cancel
Next

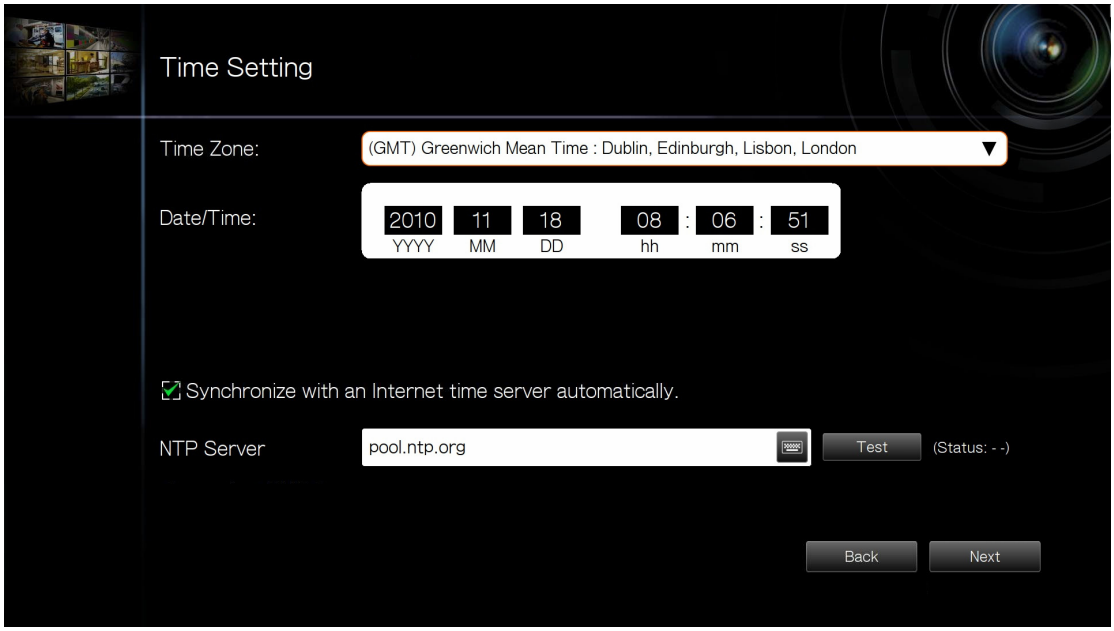
2. Change the admin password or use the default password (admin).



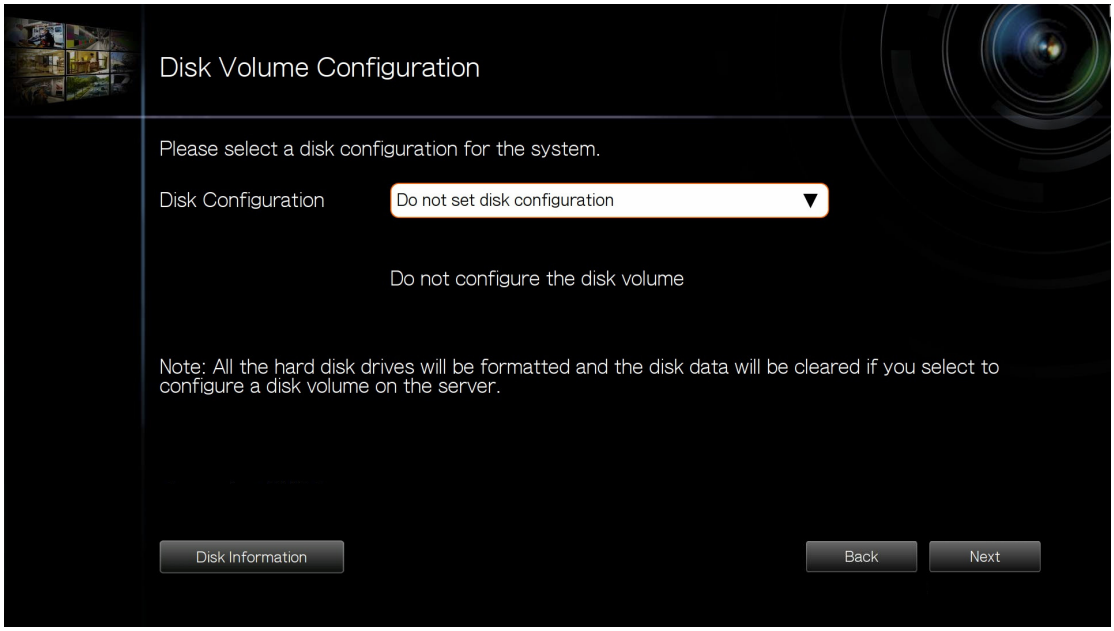
3. Select to obtain the network settings automatically or enter the network settings.



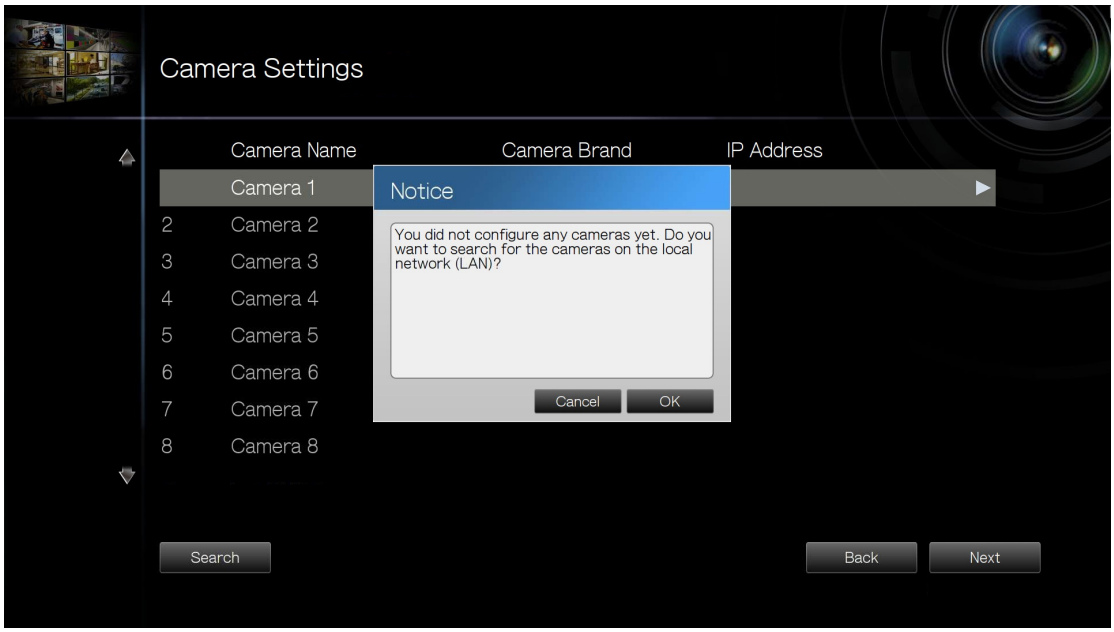
4. Enter the date and time settings. You can select to synchronize the server time with an Internet time server. If you enter a domain name for the NTP server, make sure you have set up a correct DNS server.



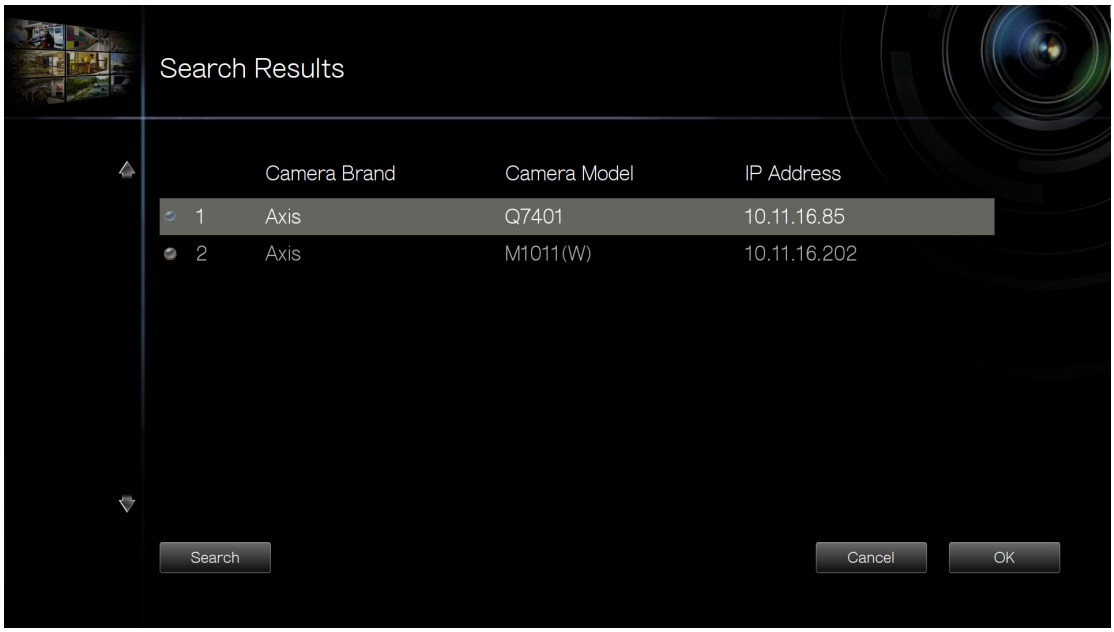
5. Select the disk configuration. Click 'Disk Information' to view the hard disk drive details. Note that all the disk data will be deleted when you select to initialize the disk volume.


Disk Volume Configuration
Please select a disk configuration for the system.
Disk Configuration
Do not set disk configuration
Do not configure the disk volume
Note: All the hard disk drives will be formatted and the disk data will be cleared if you select to configure a disk volume on the server.
Disk Information
Back
Next

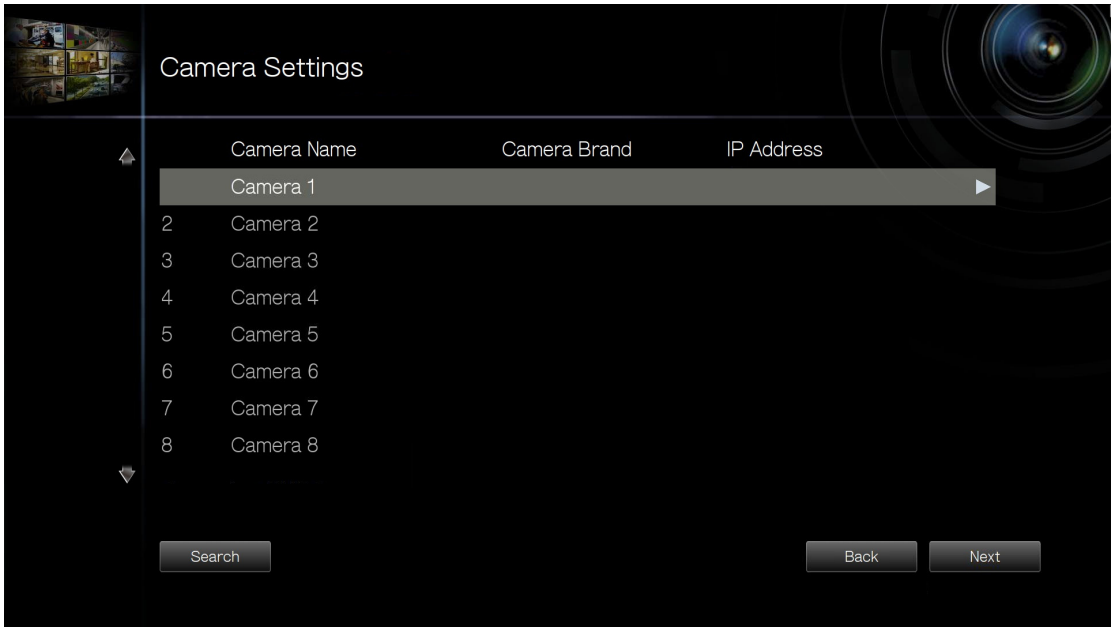
6. Configure the IP camera settings. If no IP cameras have been set, you will be prompted to search for the cameras on the local network.



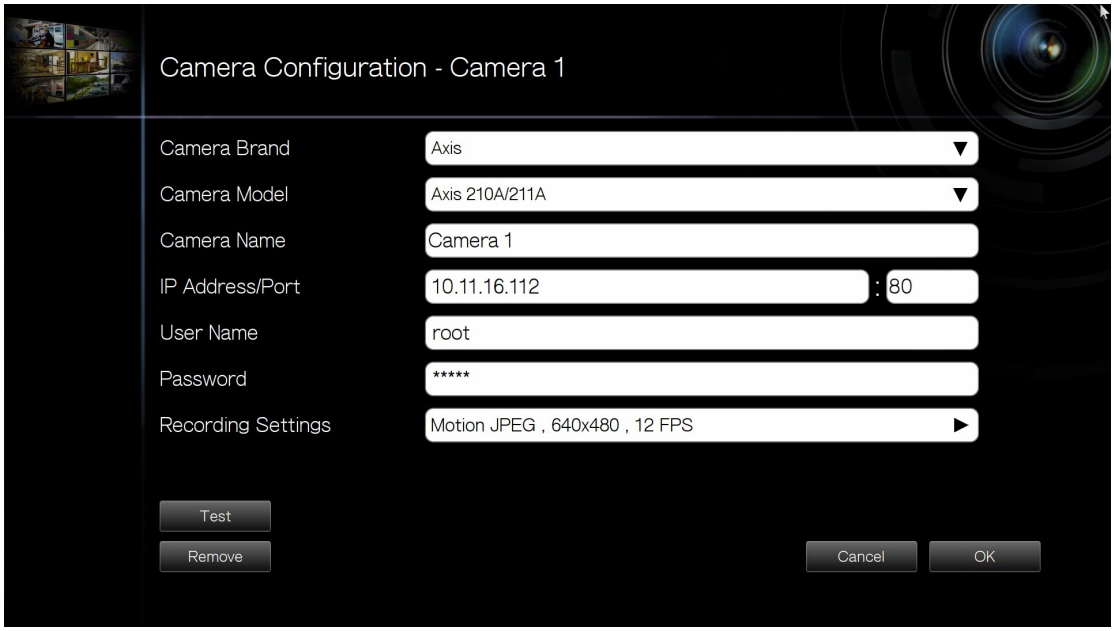
The cameras found will be shown. Select the IP cameras and click 'Add' to add the channels.



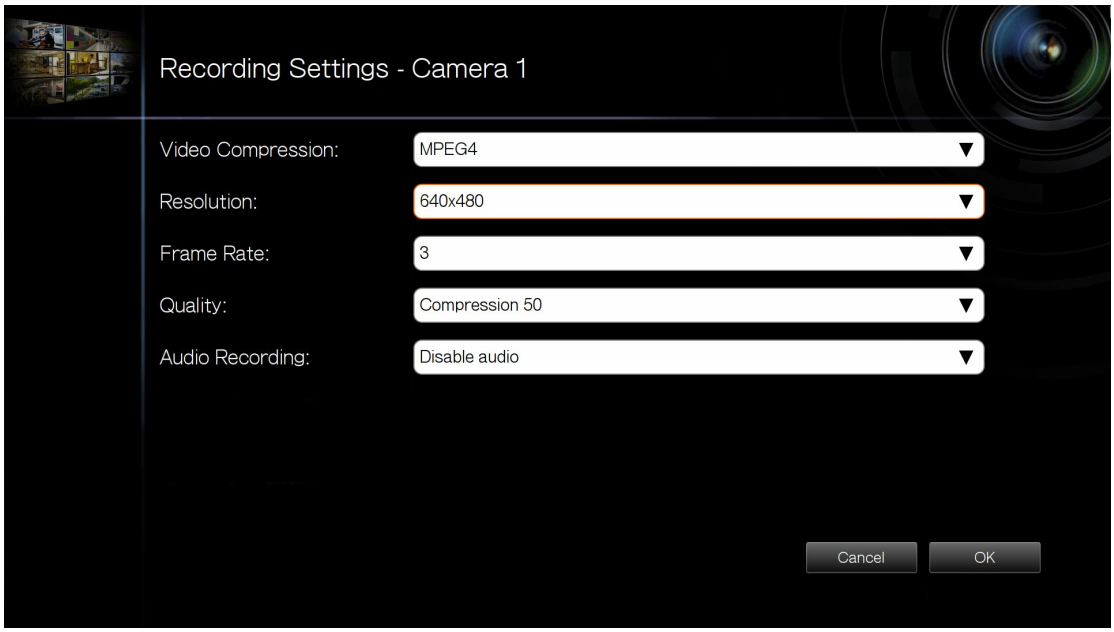
To manually add an IP camera or edit the camera settings, click ▸.



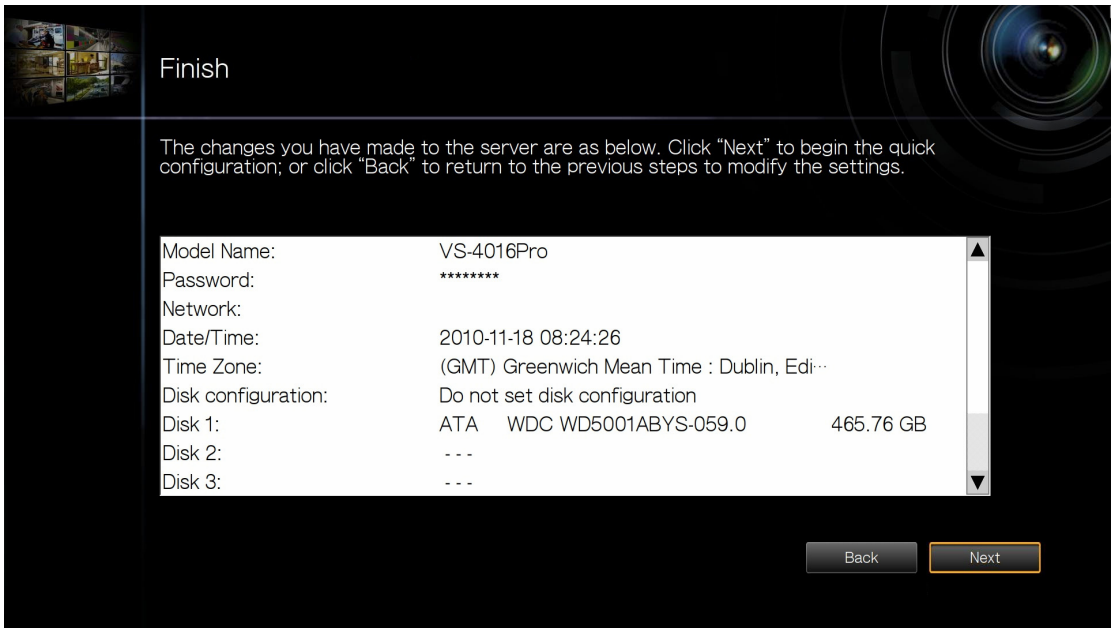
Enter the camera settings. Click 'Test' to test the connection. Click 'Remove' to delete the camera.



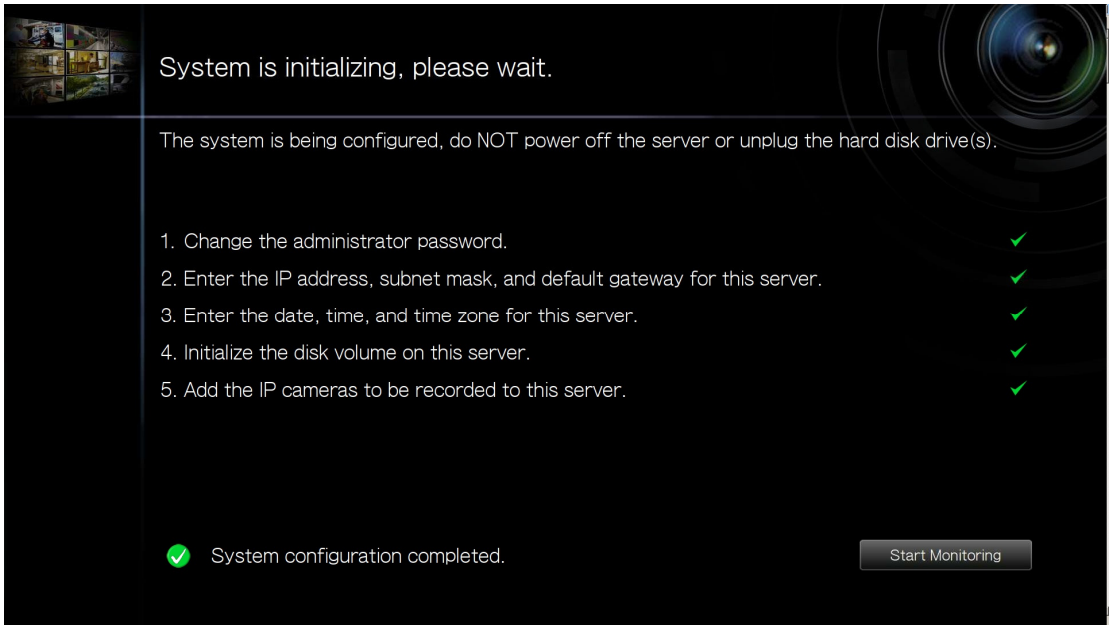
To edit the recording settings, click ▸ next to 'Recording Settings'. Define the recording settings and click 'OK'.



7. Verify the settings and click 'Next' to initialize the server.

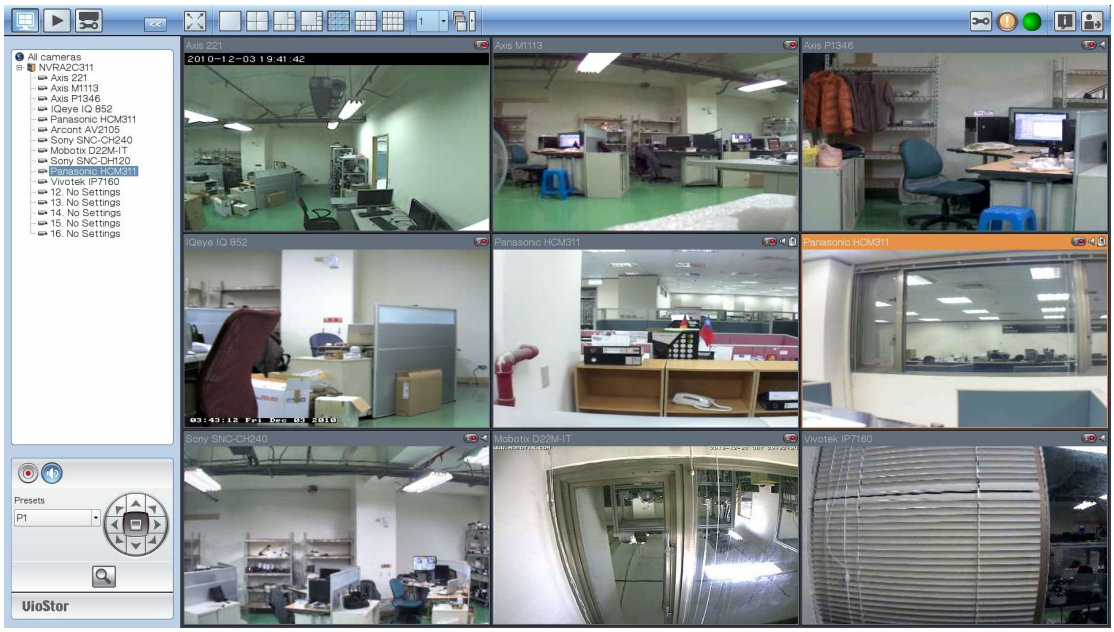

Finish
The changes you have made to the server are as below. Click "Next" to begin the quick configuration; or click "Back" to return to the previous steps to modify the settings.
Model Name: VS-4016Pro
Password: ********
Network:
Date/Time: 2010-11-18 08:24:26
Time Zone: (GMT) Greenwich Mean Time : Dublin, Edi···
Disk configuration: Do not set disk configuration
Disk 1: ATA WDC WD5001ABYS-059.0 465.76 GB
Disk 2: - - -
Disk 3: - - -
Back
Next

8. When the initialization completes, you can start to use VioStor. Click ‘Start Monitoring’ to enter the monitoring screen.

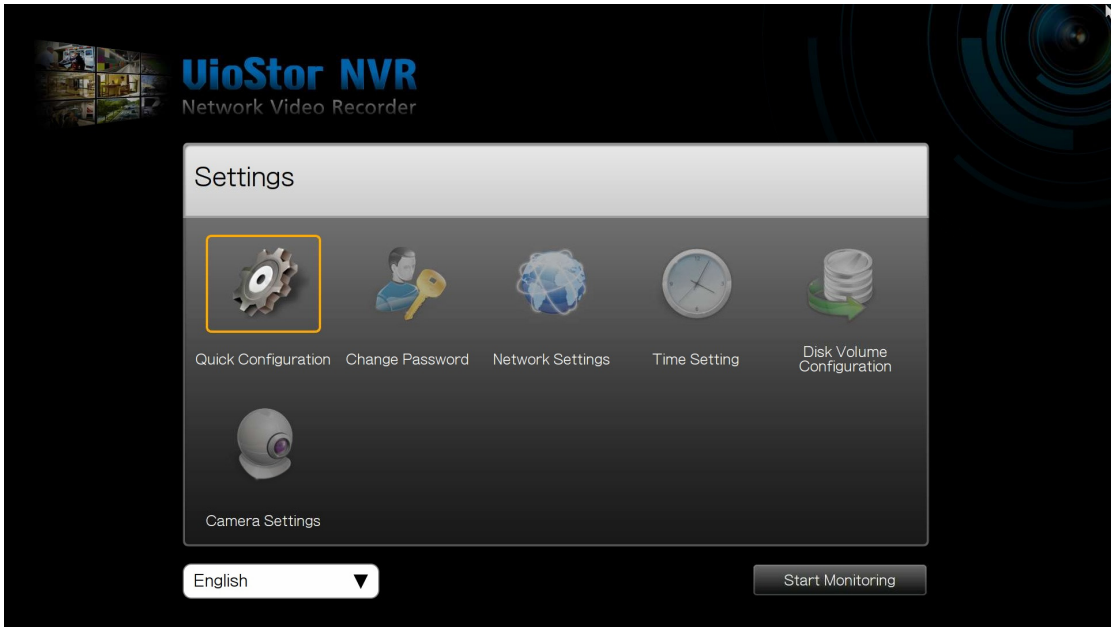

System is initializing, please wait.
The system is being configured, do NOT power off the server or unplug the hard disk drive(s).
1. Change the administrator password.
2. Enter the IP address, subnet mask, and default gateway for this server.
3. Enter the date, time, and time zone for this server.
4. Initialize the disk volume on this server.
5. Add the IP cameras to be recorded to this server.
System configuration completed.
Start Monitoring

3.2 System Configuration

To manage system settings such as administrator password, network and time settings, click on the monitoring screen. Note that this button (option) will only be shown when you login as an administrator.



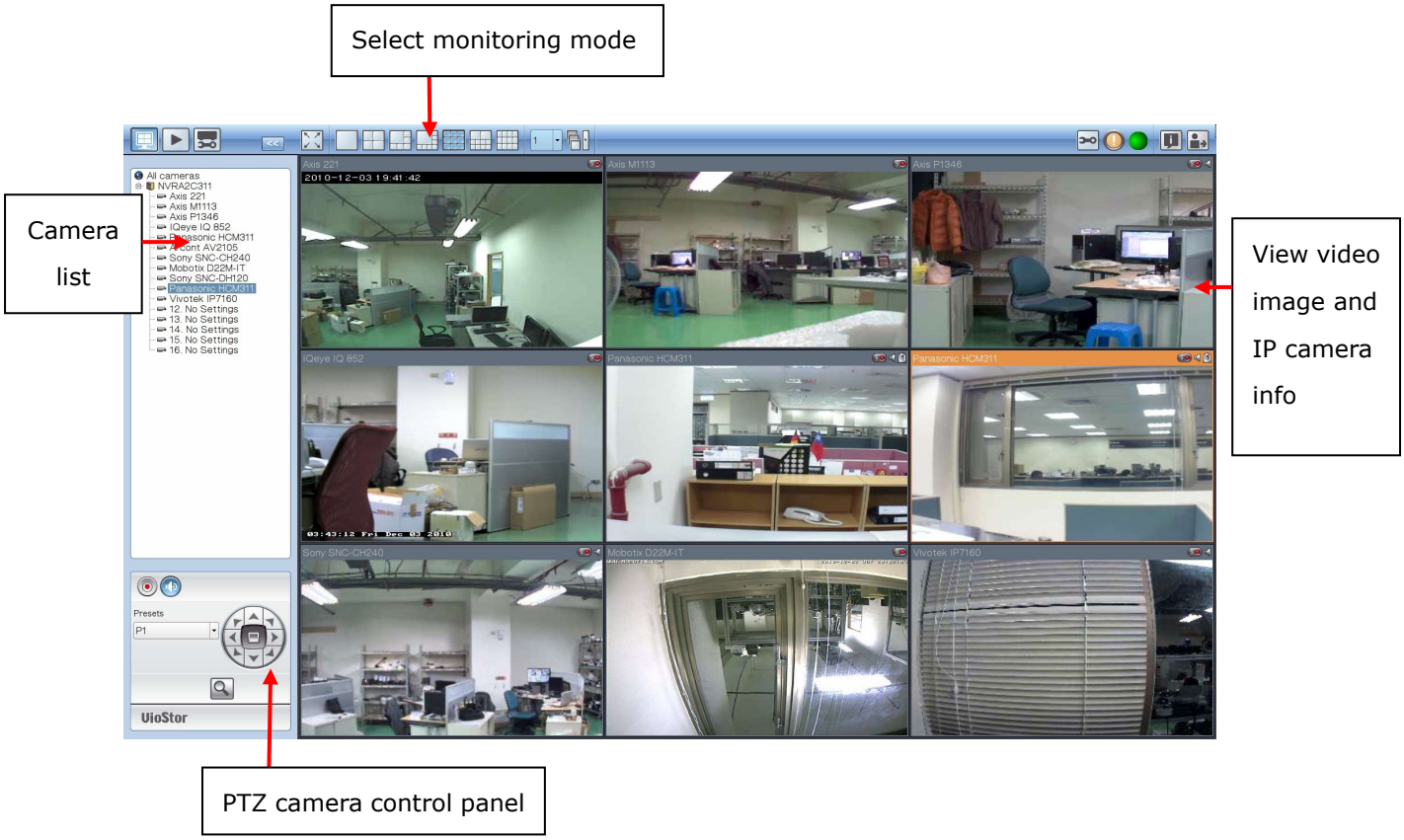
Select the interface language and click the icons to configure the settings.



Icon	Description
	Perform quick configuration of the system.
	Change administrator password to login local display
	Change network settings
	Change date and time settings
	Configure disk volume and initialize hard disk drives
	Configure network camera settings

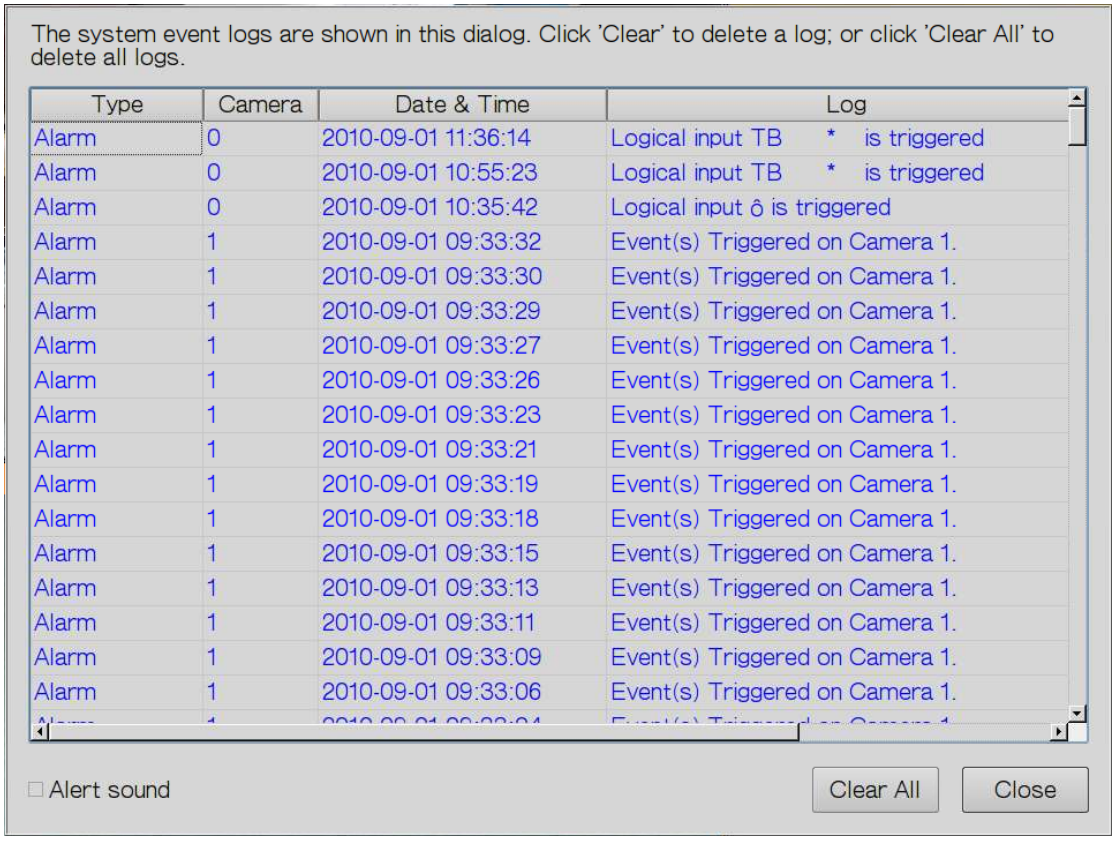
3.3 Monitoring

Upon successful login, the monitoring screen will be shown. You can start to monitor the IP cameras, change the display mode, enable or disable manual recording, control PTZ cameras, and so on.



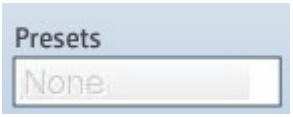
Icon	Description
	Monitor: Enter the monitoring page.
	Playback: Enter the playback page.
	Configuration: Enter the system configuration page; allows admin access only.
	Hide left panel: Hide the panel on the left of the monitoring page.
	Show left panel: Show the panel on the left of the monitoring page.
	Logout: Logout VioStor.
	About: View the server name, NVR model, and firmware version.
	Manual recording: Enable or disable recording on the IP camera. The administrator can select to enable or disable this function in 'Camera Settings' > 'Recording Settings' on the web-based administration interface.
	Audio (optional): Turn on or off the audio support for the monitoring page.

	Event notification: When the alarm recording is enabled and an event is detected, this icon will be shown. Click this icon to view the alert details. You can select to turn on or off the alert sound. To clear all the logs, click 'Clear All'.


The system event logs are shown in this dialog. Click 'Clear' to delete a log; or click 'Clear All' to delete all logs.
Type
Camera
Date & Time
Log
Alarm 0 2010-09-01 11:36:14 Logical input TB * is triggered
Alarm 0 2010-09-01 10:55:23 Logical input TB * is triggered
Alarm 0 2010-09-01 10:35:42 Logical input ô is triggered
Alarm 1 2010-09-01 09:33:32 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:30 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:29 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:27 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:26 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:23 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:21 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:19 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:18 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:15 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:13 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:11 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:09 Event(s) Triggered on Camera 1.
Alarm 1 2010-09-01 09:33:06 Event(s) Triggered on Camera 1.
Alert sound
Clear All
Close

PTZ Control Panel

The term 'PTZ' stands for 'Pan/Tilt/Zoom'. If your IP camera supports PTZ, you can use the control panel on VioStor to adjust the viewing angel of the IP camera. These functions are available depending on the camera models. Please consult the camera's documentation for details. Note that the digital zoom function will be disabled when the PTZ function is in use.

	Pan and tilt: If your PTZ camera supports pan and tilt functions, click these buttons to pan or tilt the camera.
	**Preset positions:** Select the preset position of the PTZ camera.
	Zoom in/Zoom out: If your PTZ camera supports zooming, click these buttons to zoom in or zoom out.
	Digital zoom： Select a channel and click this button to enable the digital zoom function. When enabled, you can click '+' to zoom in or '-' to zoom out.
	Focus control: Adjust the focus control of the PTZ camera.

Display Mode

VioStor supports various display modes for monitoring. Click the correct icon to switch the display mode.

Icon	Description
	Full screen
	Single-channel mode
	4-channel mode
	6-channel mode
	8-channel mode
	9-channel mode
	10-channel mode
	12-channel mode
	Select the display page number
	Sequential mode. This mode can be used with other display modes. Click to enable or disable sequential mode. Click to define the time interval of which the channels will be displayed.

Note:
VS-2004 Pro supports 1 to 6-channel display modes only.
VS-2008 Pro, VS-4008 Pro, VS-4008U-RP Pro support 1 to 10-channel display modes only.
Other NVR models support 1 to 12-channel display modes.

Live View Screen

Upon successful configuration of the IP cameras, you can enter the monitoring screen to view the live video from the cameras.

If your camera supports pan and tilt functions, you can click the channel on the screen and adjust the viewing angle with your mouse directly. If zooming is supported, you can scroll the mouse wheel to zoom in or zoom out the video. These functions are available depending on the camera models. Please consult the camera's documentation for details.

Camera Status

The camera status is indicated by the icons shown below:

Icon	Camera Status
	Scheduled or continuous recording is in process
	This IP camera supports audio function
	This IP camera supports PTZ function
	Manual recording is enabled
	The recording triggered by advanced event management ('Camera Settings' > 'Alarm Settings' > 'Advanced Mode') is in process
	The alarm input 1 of the IP camera is triggered
	The alarm input 2 of the IP camera is triggered
	The alarm input 3 of the IP camera is triggered
	Motion detection recording is in process
	Digital zoom is enabled

Connection Message

When the NVR fails to display the video of an IP camera, a message will be shown in the channel window to indicate the status.

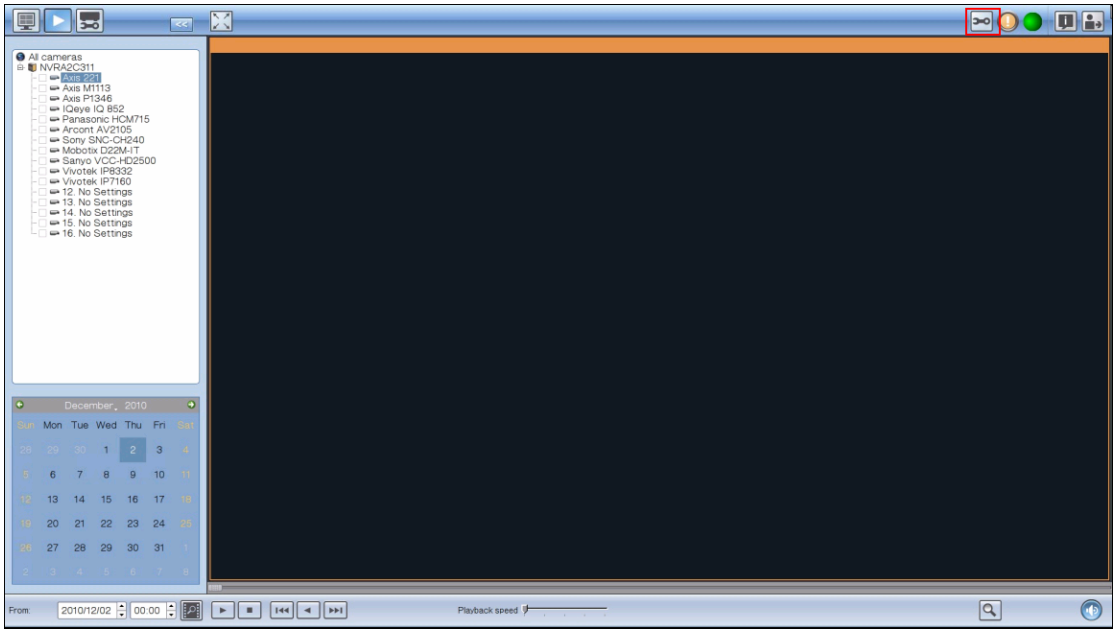
Message	Description
Connecting	If the IP camera is located on remote network or the Internet, it may take some time to establish the connection to the camera.
Disconnected	The NVR cannot connect to the IP camera. Please check the network connection of your computer and the availability of the IP camera. If the IP camera is installed on the Internet, make sure you have opened the port on your router or gateway in order to access the IP camera. Please refer to Appendix B.
No Permission	You do not have the right to view the channel. Please login as a user with the access right or contact the system administrator.
Server Error	Please check the camera settings or update the firmware of the IP camera (if any). Contact the technical support if the error persists.

Note:

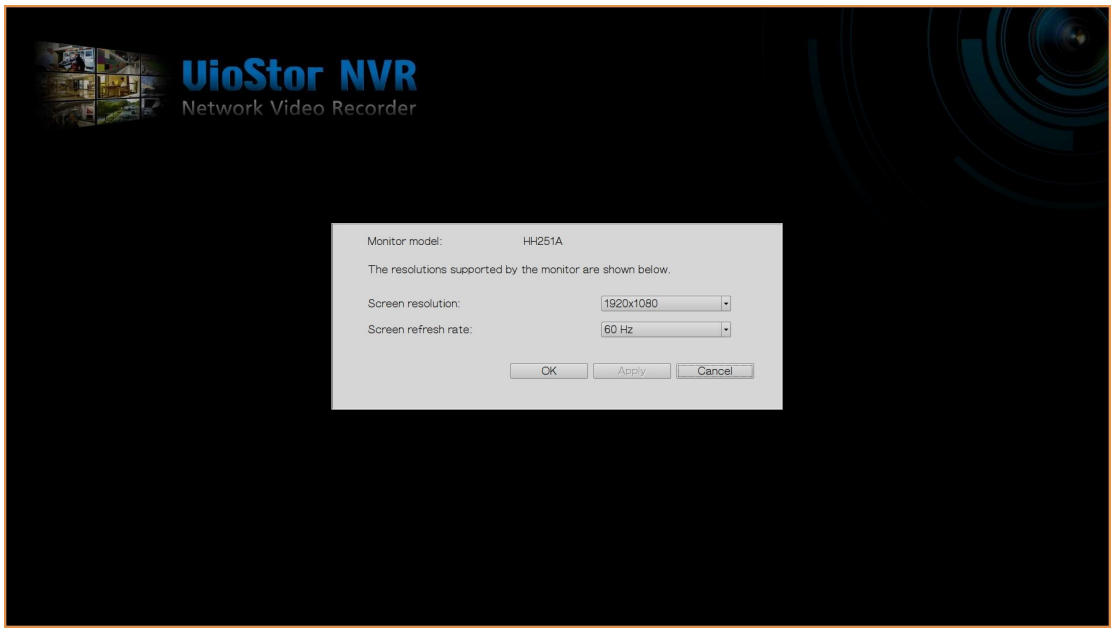
1. Enabling or disabling manual recording will not affect scheduled or alarm recording tasks. They are independent processes.
2. You can right click the IP camera channel and select the following options:
   a. Full screen
   b. Keep aspect ratio
   c. Deinterlace (available on particular camera models only)
   d. Keep original size

Screen resolution

The NVR adjusts the screen resolution automatically when a monitor is detected. To change the screen resolution, click on the monitoring or playback screen. After changing the resolution, you will return to the monitoring screen.



The NVR will show the resolution settings supported by the detected monitor automatically. If the monitor model cannot be detected, the NVR will provide the options 1400*1050, 1280*1024, 1024*768.

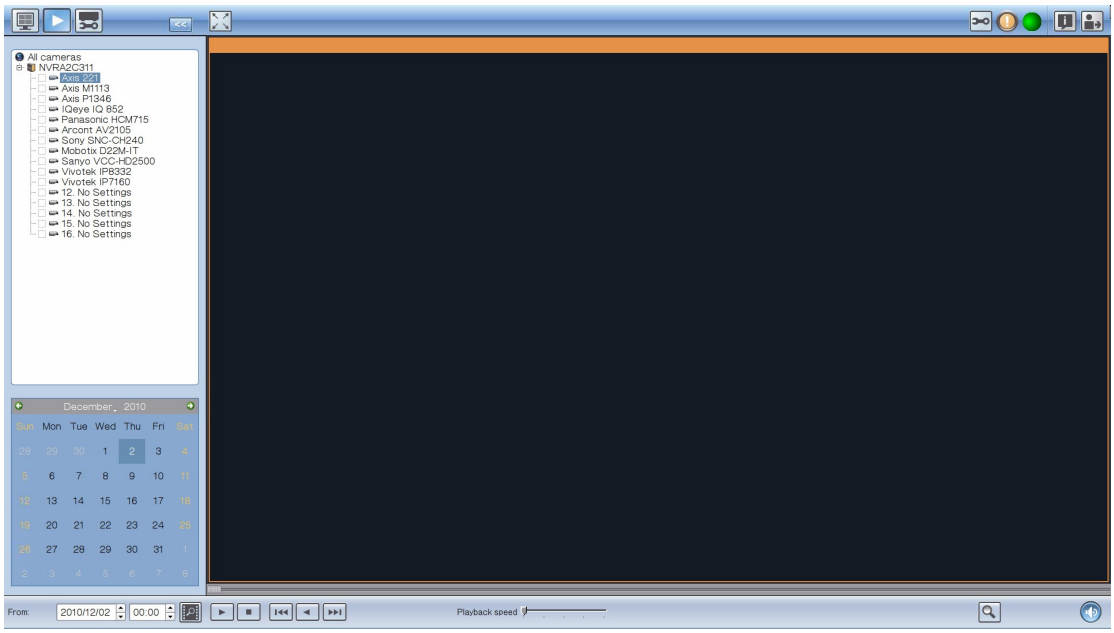


3.4 Video Playback

You can play the videos on the NVR by the local display. To use this feature, click on the monitoring screen. Most of the icons on the playback screen are the same as those on the monitoring screen. Please refer to Chapter 3.2 for the icon description.

Note: You must have the playback access right to the IP cameras to play the videos. You can login VioStor as admin and edit the playback access right in 'User Management' by the web-based administration interface.

When the playback screen is shown, select a camera channel on the NVR. Next, select the date and time of the video, click to start searching. The videos which matched the search criteria will be played automatically.



Playback Settings:

You can play, pause, stop, reverse play a video file, or select to play the previous or next file. When playing a video, you can use the scroll bar to adjust the playback speed or click the digital zoom icon to zoom in or zoom out the video. You can also right click the IP camera channel and select the following options:

a. Full screen
b. Keep aspect ratio
c. Deinterlace (available on particular camera models only)
d. Keep original size

Chapter 4. Use VioStor by Web-based Interface

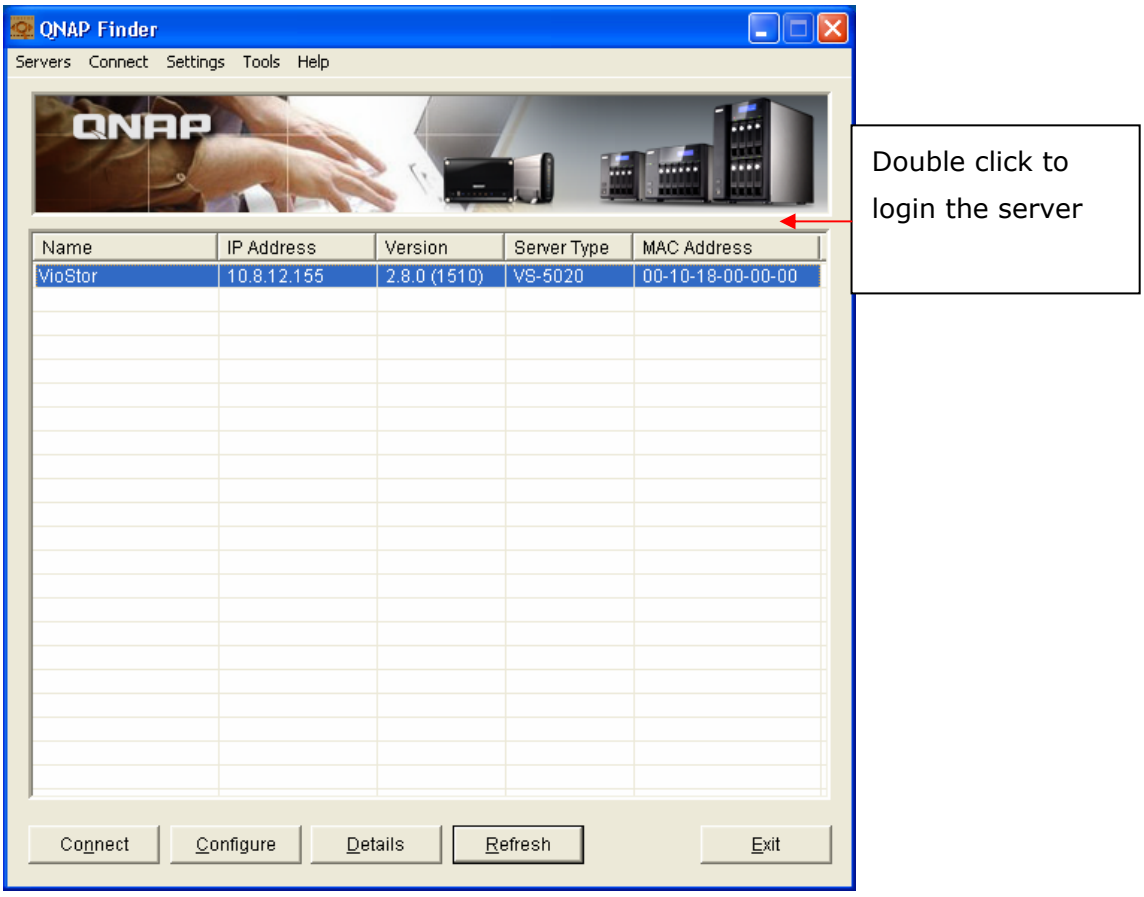
You are recommended to use Microsoft Internet Explorer to monitor the IP cameras and manage the functions of VioStor.

Important Notice:
Before you start to use VioStor, make sure you have installed the hard disks in the server correctly and finished the disk formatting and configuration. Otherwise, the server will not function properly.

4.1 Connect to VioStor

Follow the steps below to access the monitoring page of VioStor.

1. Run Finder. Double click the name of VioStor. You can also type the IP address of the server in the IE browser to access the monitoring page.

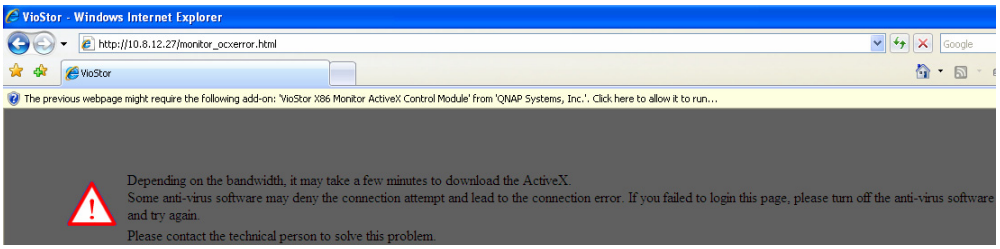

QNAP Finder
Servers Connect Settings Tools Help
QNAP
Name IP Address Version Server Type MAC Address
VioStor 10.8.12.155 2.8.0 (1510) VS-5020 00-10-18-00-00-00
Connect Configure Details Refresh Exit
Double click to login the server

2. Enter the user name and password to login VioStor.

Default user name: **admin***
Default password: **admin**

* If you are using the VS-201/VS-101/NVR-104, the login name is 'administrator' and the login password is 'admin'.

3. To view the live video, install the ActiveX add-on.

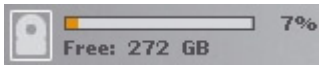

VioStor - Windows Internet Explorer
http://10.8.12.27/monitor_ocxerror.html
VioStor
The previous webpage might require the following add-on: 'VioStor X86 Monitor ActiveX Control Module' from 'QNAP Systems, Inc.'. Click here to allow it to run...
Depending on the bandwidth, it may take a few minutes to download the ActiveX.
Some anti-virus software may deny the connection attempt and lead to the connection error. If you failed to login this page, please turn off the anti-virus software and try again.
Please contact the technical person to solve this problem.

4.2 Monitoring Page

Upon successful login, the monitoring page will be shown. Select the display language. You can start to configure the system settings and use the monitoring and recording functions of the server.

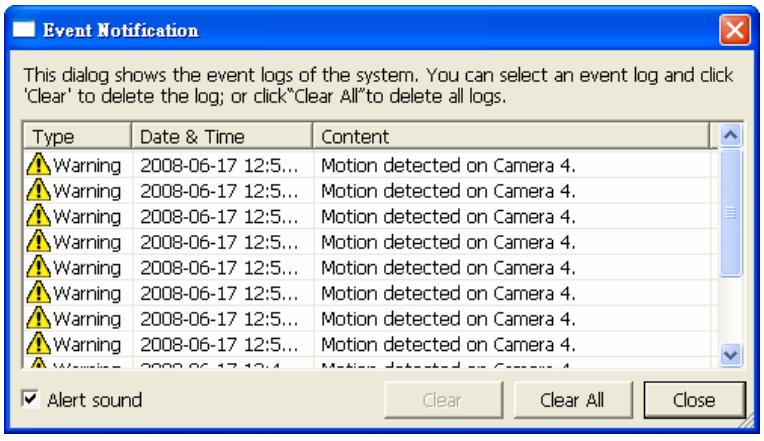
Icon	Description
	Multi display mode: VioStor supports multi-display mode. (This function can only be used when the computer or the host is connected to multiple monitors.)
	Multi-server monitoring: Up to 120 channels from multiple QNAP NVR servers can be monitored.
	Select language: Select the display language.
	E-map: Display the location of the IP camera. The E-map can be changed in system configuration page.

	System configuration: Login the system administration page (admin access required).
	Monitoring settings: Configure the advanced settings of the monitoring page. You can configure the source of the video/audio stream, event notification, and snapshot folder.
	Playback: Enter the video playback page. The administrator can grant access right to the users to playback the videos.
	Help: View the system online help.
	Logout: Logout VioStor.
	Snapshot: Take a snapshot on the selected channel. When the picture is shown, right click the picture to save it to the computer.
	Manual recording: Enable or disable manual recording on the selected channel. The administrator can enable or disable this option in the system configuration page.
	Audio (optional): Turn on/off the audio support for the monitoring page.
	Login network camera homepage: Select a channel and click this button to go to the homepage of the selected IP camera.
	Event notification: When the alarm recording is enabled and an event is detected, this icon will be shown. Click this icon to view the alert details.
	Digital zoom: Select a channel and click this button to enable the digital zoom function. (You can also right click the monitoring channel to enable this function.) Press and hold the left mouse button to zoom in or press and hold the right mouse button to zoom out. You can press the left mouse button to drag the viewing angle of

	the IP camera. You can also use the mouse wheel or the PTZ control panel to use the digital zoom function.
	Focus control: Adjust the focus control of the PTZ camera.
	Select PTZ camera preset positions: You can view different preset positions of the IP camera by clicking the number buttons. To configure the preset positions of the IP camera, please refer to the user manual of the IP camera.
	**Recording storage status:** Display the percentage of the used storage and the free space of VioStor.

Note:

1. Enabling or disabling the manual recording feature will not affect the scheduled or alarm recording.
2. By default, the snapshots are saved in 'My Documents' or 'Documents'> 'Snapshots' on your Windows OS.
3. If the snapshot time is inconsistent with the actual time that the snapshot is taken, it is caused by the network environment but not a system error.
4. Click the event notification icon to view the event details, enable or disable the alert sound or clear the event logs.

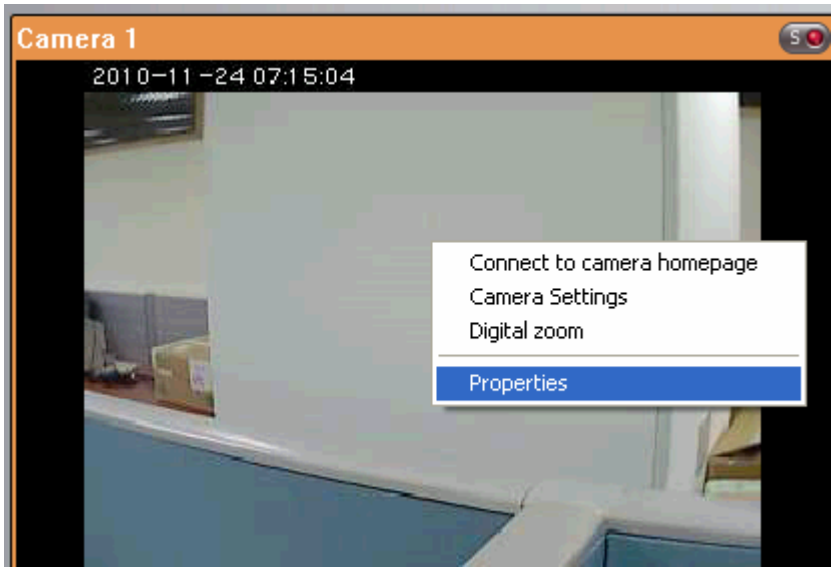

Event Notification
This dialog shows the event logs of the system. You can select an event log and click 'Clear' to delete the log; or click"Clear All"to delete all logs.
Type
Date & Time
Content
Warning 2008-06-17 12:5... Motion detected on Camera 4.
Alert sound
Clear
Clear All
Close

5. When the digital zoom function is enabled on multiple IP cameras, the zooming function will be affected if your computer performance is not high enough.

Right click the monitoring channel on the live view page. The following functions are available depending on the IP camera model.

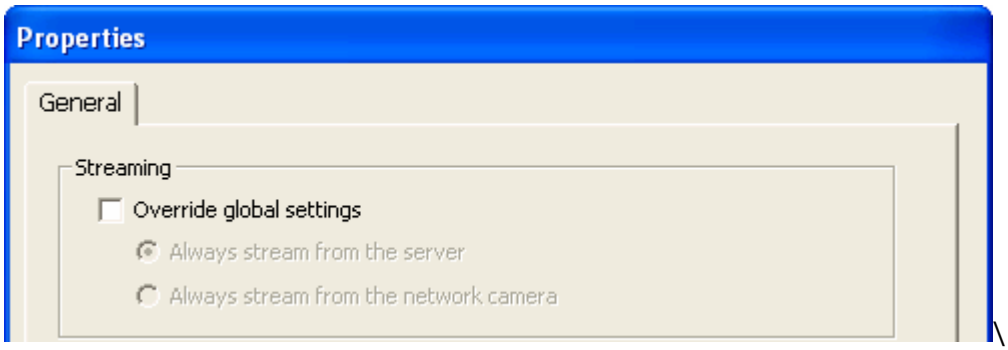
a. Connect to camera homepage.
b. Camera setting: Enter the configuration page of the IP camera.
c. PTZ: Pan/Tilt/Zoom camera control.
d. Preset: Select the preset positions of the PTZ camera.
e. Enable live tracking: Available on Panasonic NS202(A) camera.
f. Disable live tracking: Available on Panasonic NS202(A) camera.
g. Auto cruising: This feature is used to configure the PTZ cameras to cruise according to the preset positions and the staying time set for each preset position.
h. Digital zoom: Enable/disable digital zoom.
i. Keep aspect ratio.

To configure other monitoring options, right click a channel and select 'Properties'.



Streaming:

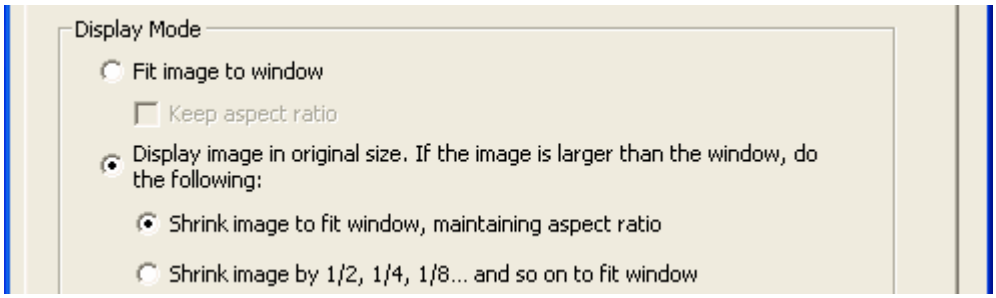
- Always stream from the server: Select this option to stream the audio and video data from the NVR. If your computer cannot connect to the network cameras, select this option to allow NVR to stream the data; no extra port forwarding is required. However, the performance of the NVR may be affected.
- Always stream from the network camera: If your NVR and the network cameras are connected to the same local network, select this option to stream the video data from the network cameras. If your NVR, network cameras, and PC are located behind a router, virtual server, or firewall, you need to configure port forwarding on the network cameras to use certain ports.



OSD Settings: Specify the font colour of the texts on the channels.

Display Mode:

- Fit image to window: Select this option to fit an image to the browser window. You may also specify to keep the aspect ratio when resizing an image.
- Display image in original size: Select this option to display an image in its original size if it is smaller than the browser window. Specify also how an image will be resized if it is larger than the browser window.
  - ✓ Shrink image to fit window, maintaining aspect ratio
  - ✓ Shrink image by 1/2, 1/4, 1/8… and so on to fit window

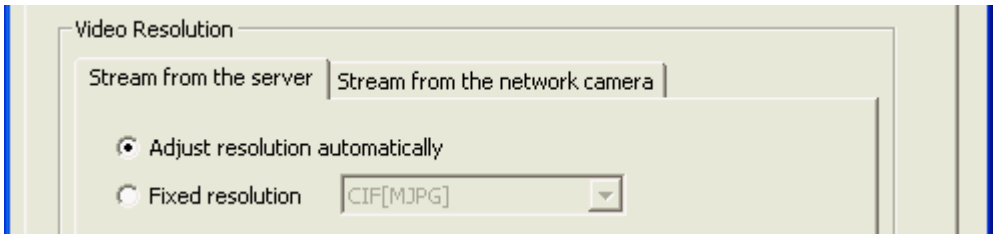

Display Mode
Fit image to window
Keep aspect ratio
Display image in original size. If the image is larger than the window, do the following:
Shrink image to fit window, maintaining aspect ratio
Shrink image by 1/2, 1/4, 1/8... and so on to fit window

Video Processing: Turn on 'Deinterlace' when there are interlaced lines on the video.

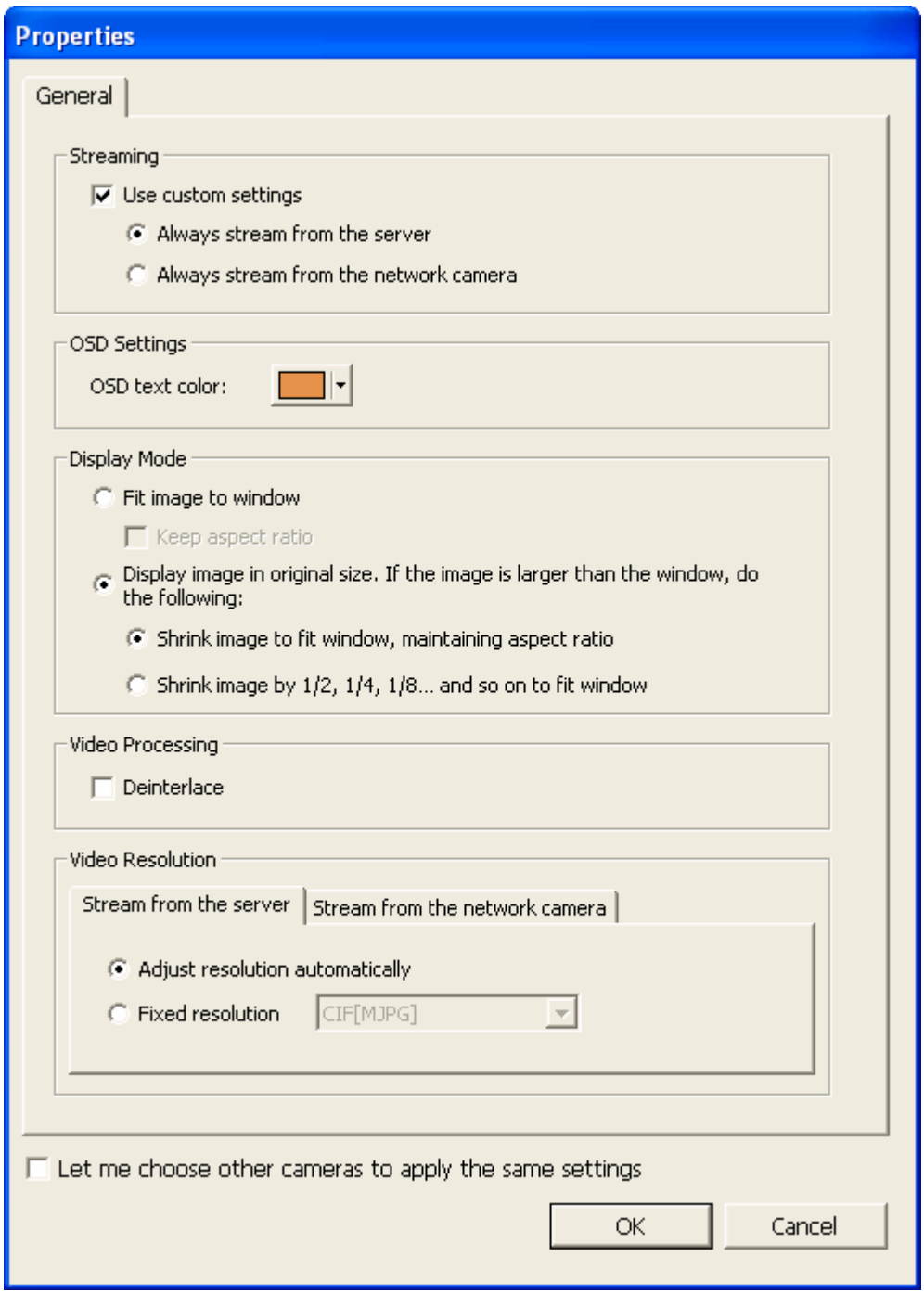
Video Resolution: Specify to adjust resolution automatically or use fixed resolution. If you select to adjust resolution automatically, the NVR will select the resolution setting* which best fits the size of the IE browser window. Note that 'Stream from network camera' will not be available if the network camera does not support streaming from camera or video resolution configuration. Both options will not be available if the network camera does not support multiple streams.

*If a network camera supports different resolution settings, NVR will select the smallest resolution larger than (or equal to) the size of the browser window.

If all the supported resolution settings of a network camera are smaller than the browser window, the largest resolution will be selected.



Let me choose other cameras to apply the same settings: Select this option to apply the changes to other network cameras. Note that some settings may not be applied if the network camera does not support the features, such as streaming from camera or video resolution configuration.


Properties
General
Streaming
Use custom settings
Always stream from the server
Always stream from the network camera
OSD Settings
OSD text color:
Display Mode
Fit image to window
Keep aspect ratio
Display image in original size. If the image is larger than the window, do the following:
Shrink image to fit window, maintaining aspect ratio
Shrink image by 1/2, 1/4, 1/8... and so on to fit window
Video Processing
Deinterlace
Video Resolution
Stream from the server
Stream from the network camera
Adjust resolution automatically
Fixed resolution
CIF[MJPG]
Let me choose other cameras to apply the same settings
OK
Cancel

4.2.1 Live Video Window

The live videos of the IP cameras configured on VioStor are shown on the monitoring page. You can click the channel window to use the features supported by the IP camera, e.g. digital zoom or pan/tilt/zoom.

Camera Status

The camera status is indicated by the icons shown below:

Icon	Camera Status
	Scheduled or continuous recording is in process
	This IP camera supports audio function
	This IP camera supports PT function
	Manual recording is enabled
	The recording triggered by advanced event management ('Camera Settings' > 'Alarm Settings' > 'Advanced Mode') is in process
	The alarm input 1 of the IP camera is triggered and recording is in process
	The alarm input 2 of the IP camera is triggered and recording is in process
	The alarm input 3 of the IP camera is triggered and recording is in process
	Motion detection recording is in process
	Digital zoom is enabled

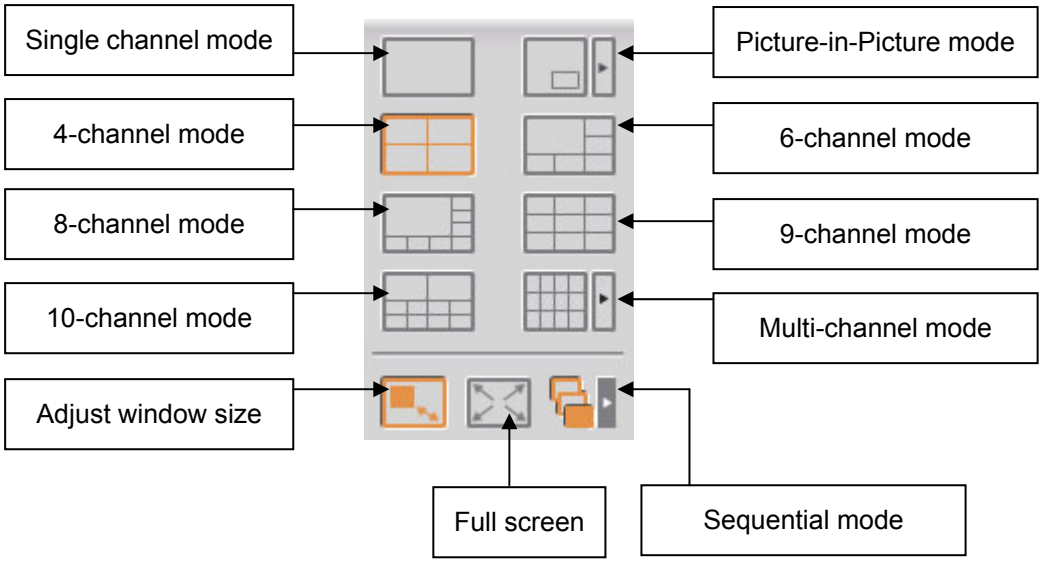
Connection Message

When the NVR fails to display the video of an IP camera, a message will be shown in the channel window to indicate the status.

Message	Description
Connecting	If the IP camera is located in remote network or the Internet, it may take some time to establish the connection to the camera.
Disconnected	The NVR cannot connect to the IP camera. Please check the network connection of your computer and the availability of the IP camera. If the IP camera is installed on the Internet, make sure you have opened the port on your router or gateway in order to access the IP camera.
No Permission	You do not have the right to view the monitoring channel. Please login as a user with the access right or contact the system administrator.
Server Error	Please check the camera settings or update the firmware of the IP camera (if any). Contact the technical support if the error persists.

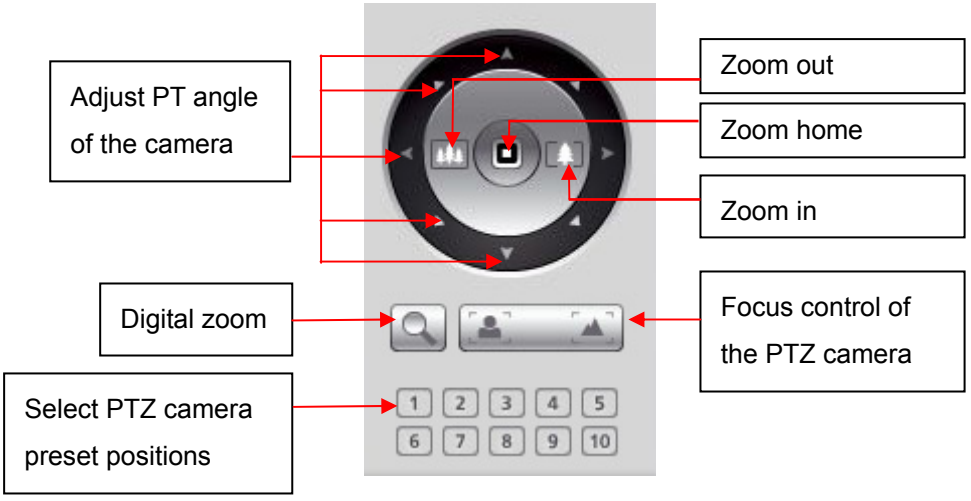
4.2.2 Display Mode

VioStor supports different display modes for viewing the monitoring channels.



4.2.3 PTZ Camera Control Panel

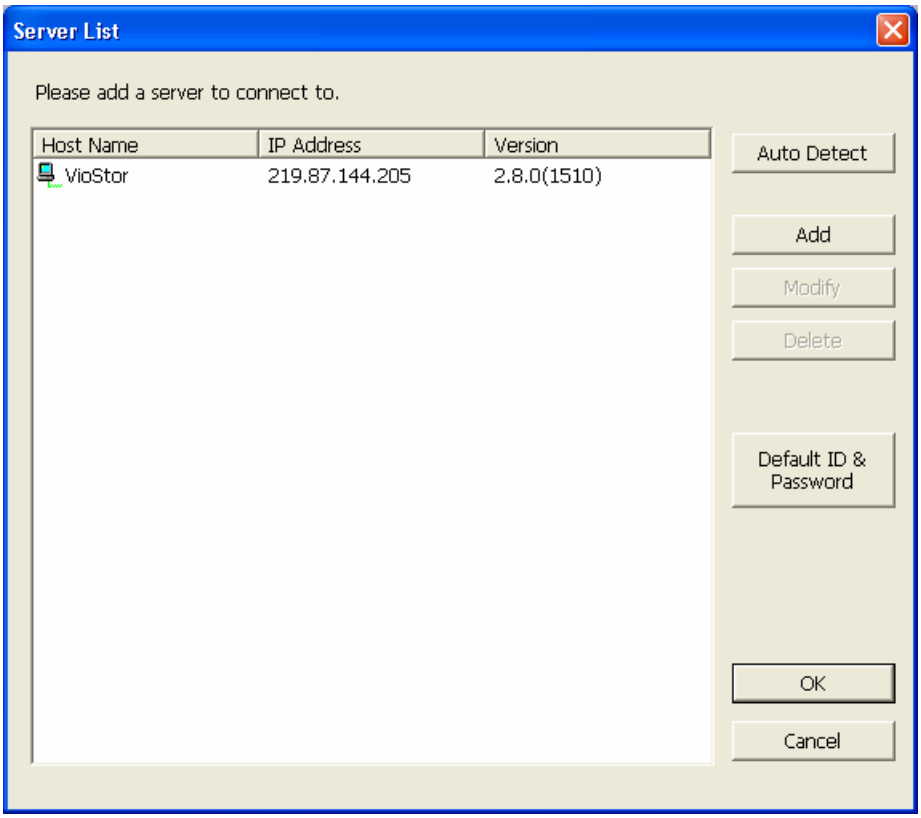
The term 'PTZ' stands for 'Pan/Tilt/Zoom'. If your IP camera supports the PTZ feature, you can use the control panel on VioStor to adjust the viewing angel of the IP camera. These functions are available depending on the camera models. Please refer to the user manual of the IP cameras for more information. Note that the digital zoom function will be disabled when the PTZ function is in use.



4.2.4 Multi-server Monitoring

Follow the steps below to use the multi-server monitoring feature of VioStor.

1. Click 'Server List' on the monitoring page.

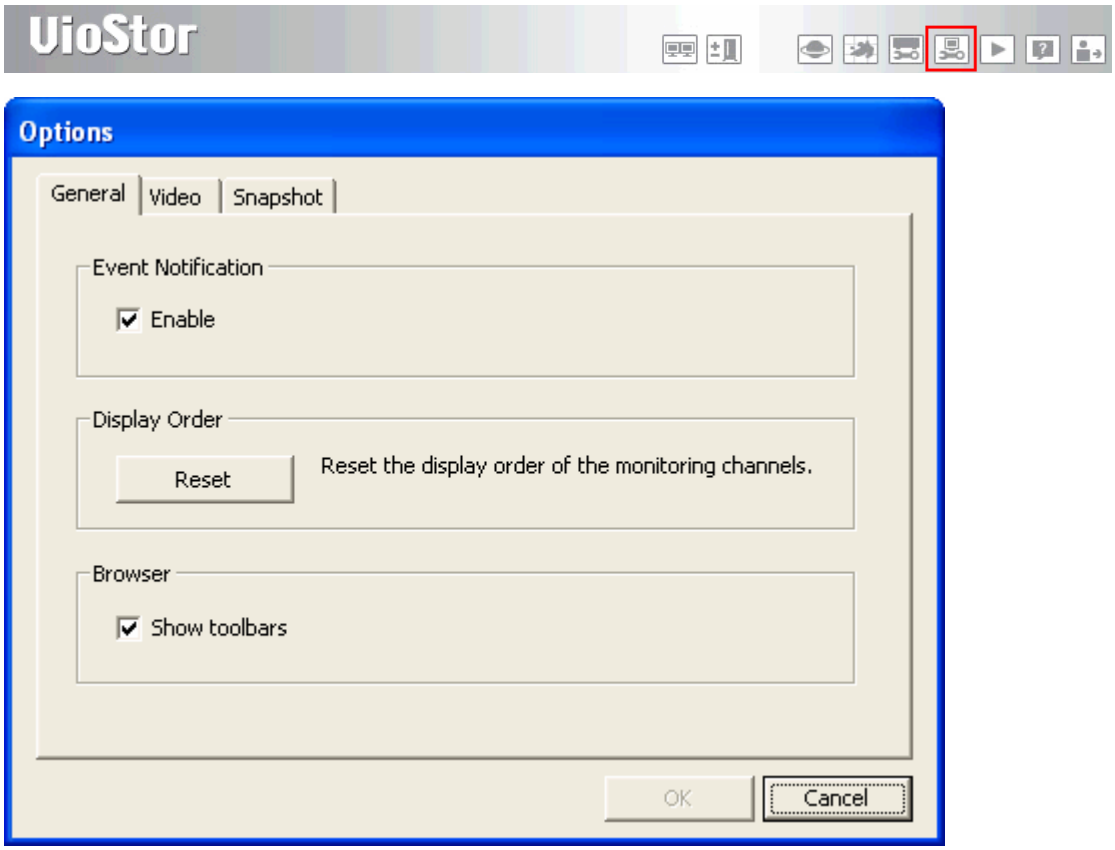


   a. Click 'Auto Detect' to search for the QNAP NVR on the LAN and add the server to the server list.
   b. Click 'Add' to add the QNAP NVR to the server list.

2. Up to 120 channels from multiple QNAP NVR servers can be added for monitoring.

4.2.5 Monitor Settings

To configure advanced monitor settings, click .



The following options are provided under the 'General' tab.

- Event Notification: When this option is enabled and an event is triggered, the alert icon will be shown on the monitoring channel instantly. Click the icon to view the alert details.
- Display Order: Click 'Reset' to reprioritize the monitoring channels to default order.
- Browser: Select to show or hide the toolbars of the IE browser.

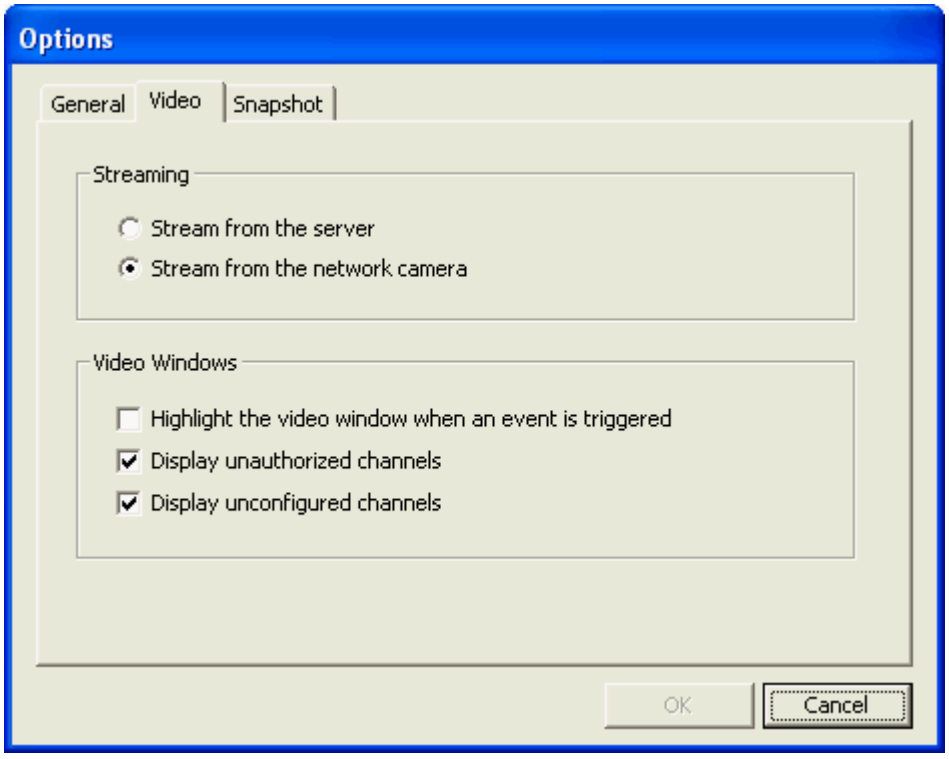
The following options are provided under the 'Video' tab.

Video Streaming

- Stream from the server: If you cannot connect to the IP camera from your computer, select this option and the NVR will stream the video from the NVR. This option does not require extra port mapping configuration; but may influence the performance of the NVR.
- Stream from IP camera: If the NVR and the IP cameras are located on the same LAN, select this option to stream the video from the IP camera. Note that you need to configure the port forwarding settings on the IP cameras if the NVR, IP cameras, and the computer are located behind a router, a virtual server, or a firewall.

Video Windows

a. Highlight the video window when an event is triggered: The video window will flash if an event is triggered.
b. Display unauthorized channels: Select this option to show the channels that the user does not have access right to monitor.
c. Display unconfigured channels: Select this option to show the channels that have not been configured.

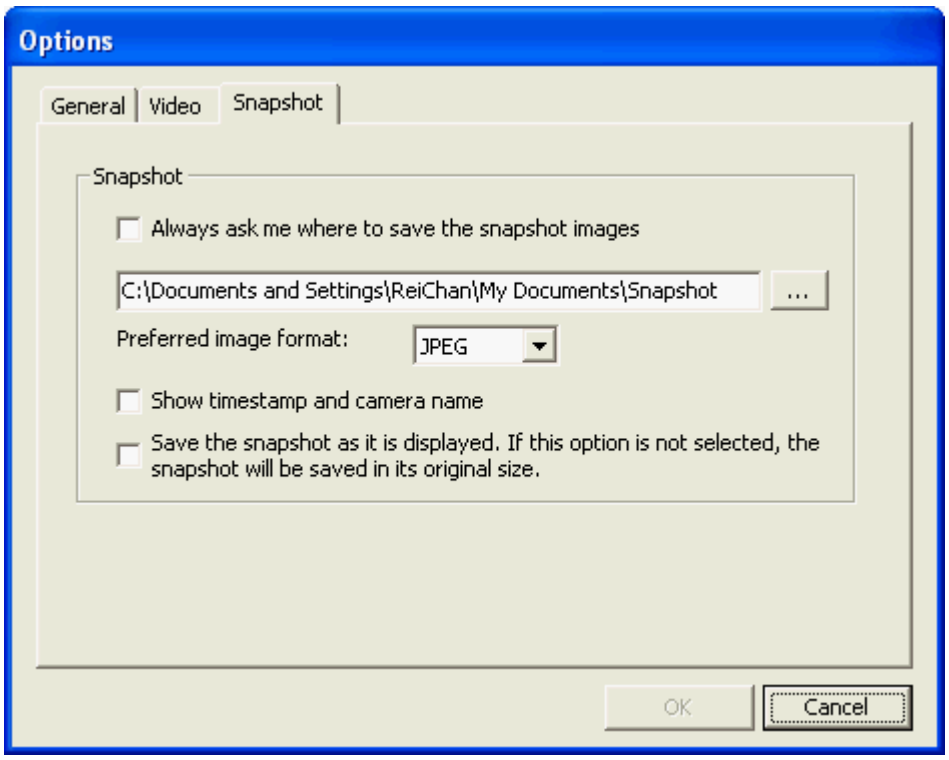


The following options are provided under the 'Snapshot' tab.

Snapshot: Specify the location where the snapshots are saved and the image format (JPEG or BMP).

Show timestamp and camera name: Show the time stamp and the camera name on the snapshot.

Save the snapshot as it is displayed: Select this option to save the snapshot as it is displayed on the window. Otherwise, the snapshot will be saved in its original size.

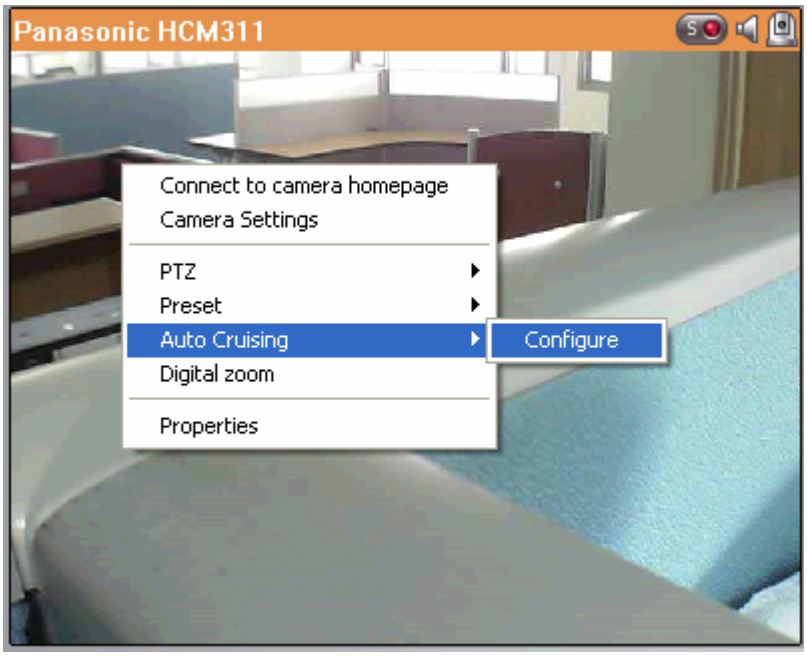


4.2.6 Auto Cruising

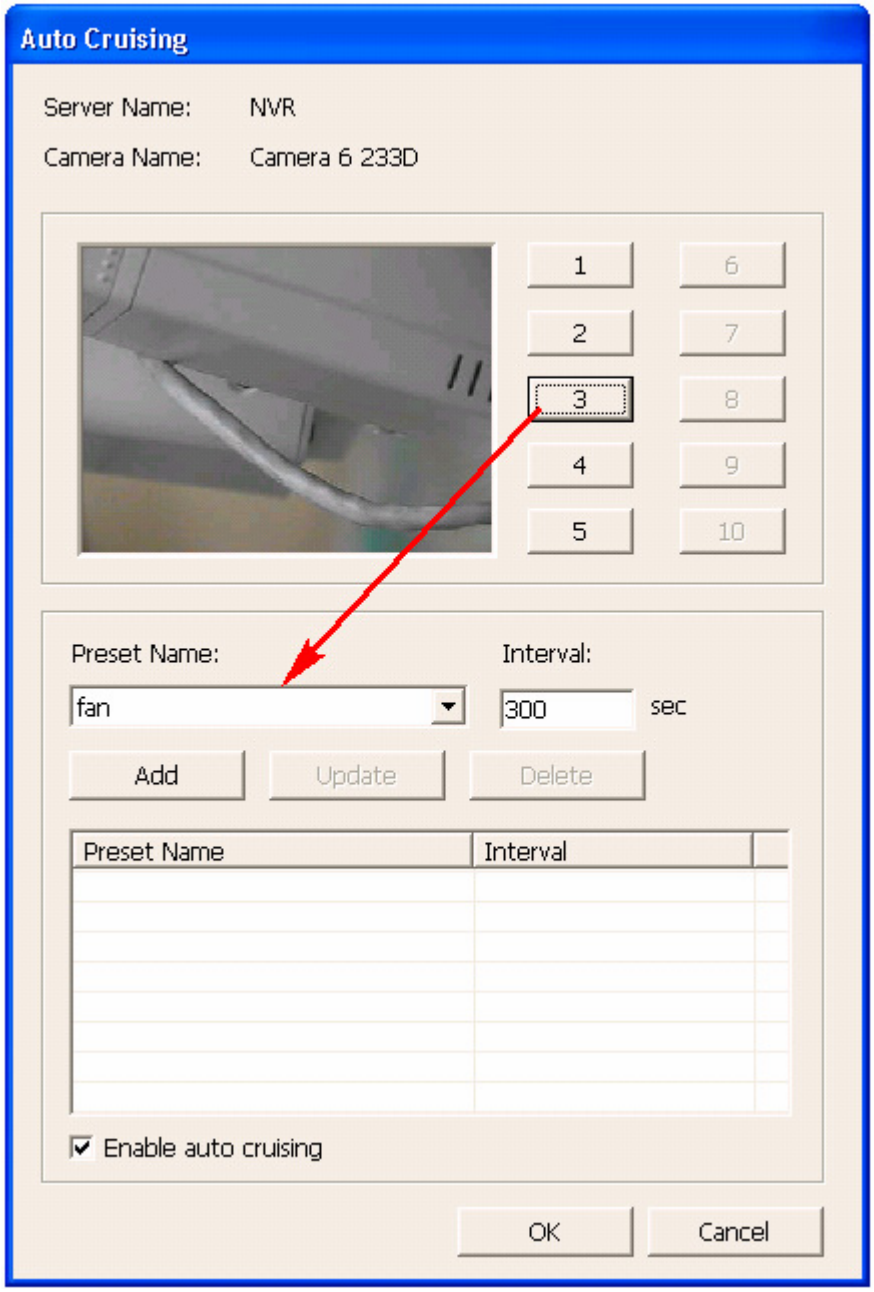
The auto cruising feature of VioStor is used to configure the PTZ cameras to cruise according to the preset positions and the staying time set for each preset position.

To use the auto cruising feature, follow the steps below.

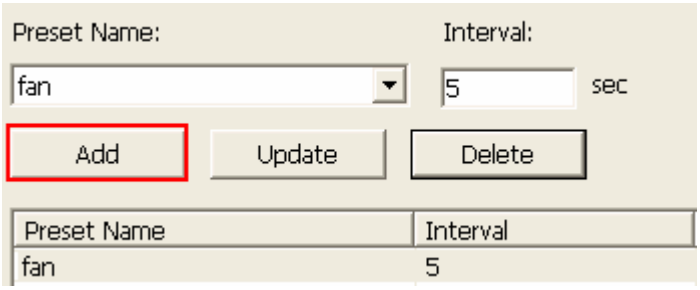
1. On the monitoring page of VioStor, click to go to the configuration page of the PTZ camera.
2. Set the preset positions on the PTZ camera.
3. Return to the monitoring page of VioStor. Right click the display window of the PTZ camera. Select 'Auto Cruising' > 'Configure'.



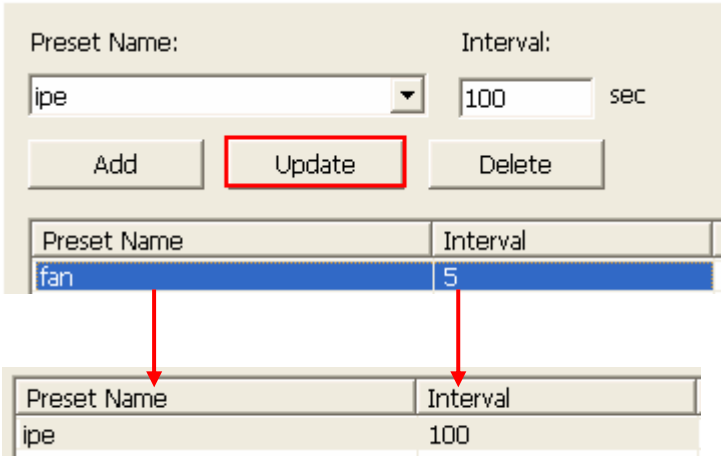
4. Click the number buttons to view the preset positions of the PTZ camera. When you click the button, the name of the corresponding preset position is shown on the 'Preset Name' drop-down menu.



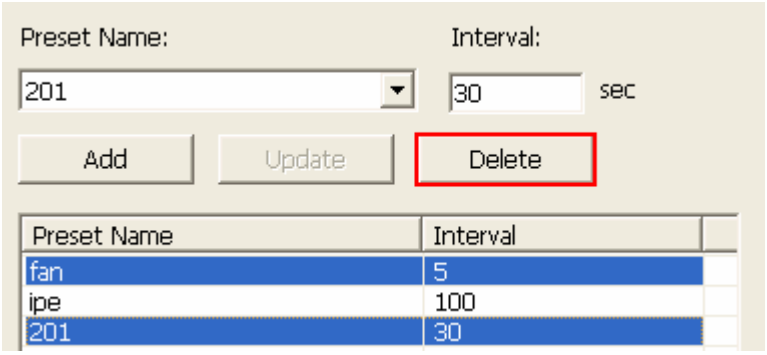
5. Add: To add a setting for auto cruising, select the 'Preset Name' from the drop-down menu and enter the staying time (interval, in seconds). Click 'Add'.



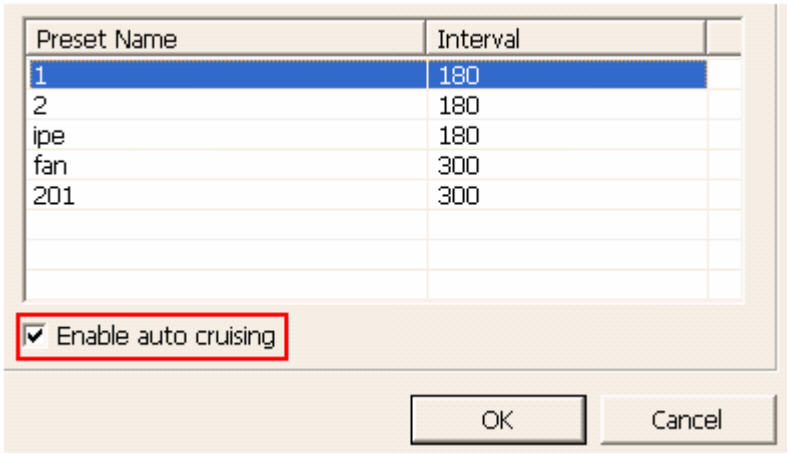
6. Update: To change a setting on the list, highlight the selection. Select another preset position from the drop down menu and/or change the staying time (interval). Click 'Update'.



7. Delete: To delete a setting, highlight a selection on the list and click 'Delete'. To delete more than one setting, press and hold the Ctrl key and click the settings. Then click 'Delete'.



8. After configuring the auto cruising settings, check the box 'Enable auto cruising' and click 'OK'. The NVR will start auto cruising according to the settings.



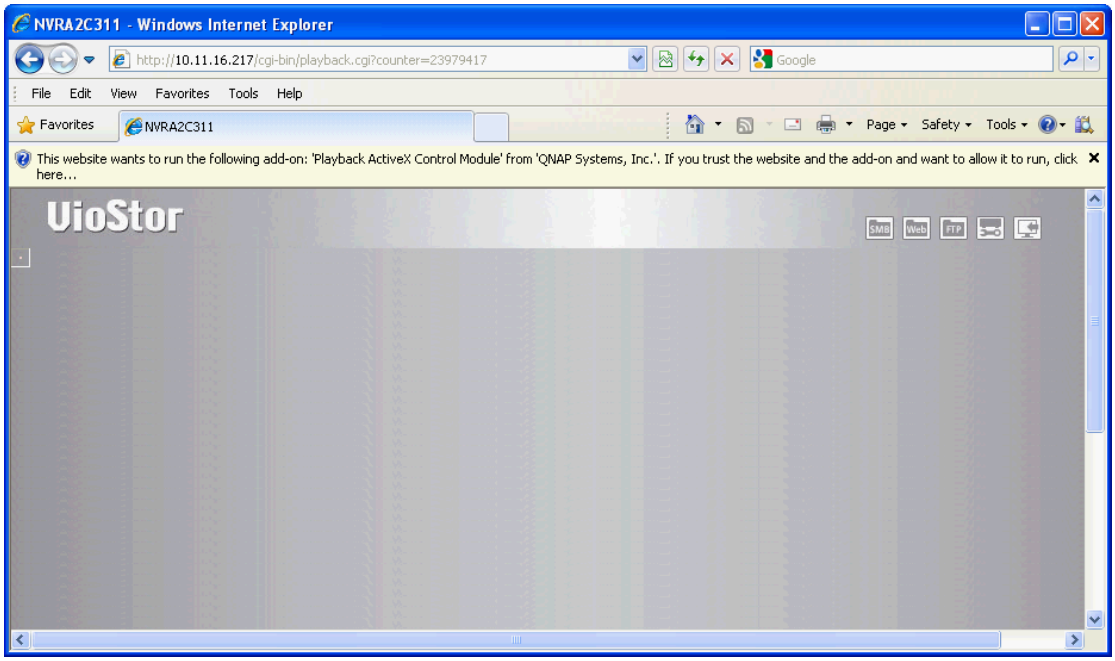
Note:

1) The default staying time (interval) of the preset position is 5 seconds. You can enter 5–999 seconds for this setting.
2) The system supports up to 10 preset positions (the first 10) configured on the PTZ cameras. You can configure up to 20 settings for auto cruising on the NVR. In other words, the NVR supports maximum 10 selections on the drop-down menu and 20 settings on the auto cruising list.

Chapter 5. Playback the Video Files

VioStor provides an intuitive web interface to search and play the recording files without any extra software required. You can access the video files over LAN or WAN.

The first time you connect to the playback interface of the NVR via IE browser, you will be prompted to install an ActiveX plugin. Follow the instructions to install the plugin.


NVRA2C311 - Windows Internet Explorer
http://10.11.16.217/cgi-bin/playback.cgi?counter=23979417
Google
File Edit View Favorites Tools Help
Favorites
NVRA2C311
Page Safety Tools
This website wants to run the following add-on: 'Playback ActiveX Control Module' from 'QNAP Systems, Inc.'. If you trust the website and the add-on and want to allow it to run, click here...
VioStor

You can also install the program from the CD-ROM in the product package. Upon successful installation, you can access VioStor player from the web interface or from Windows start menu > Programs > QNAP > Player.

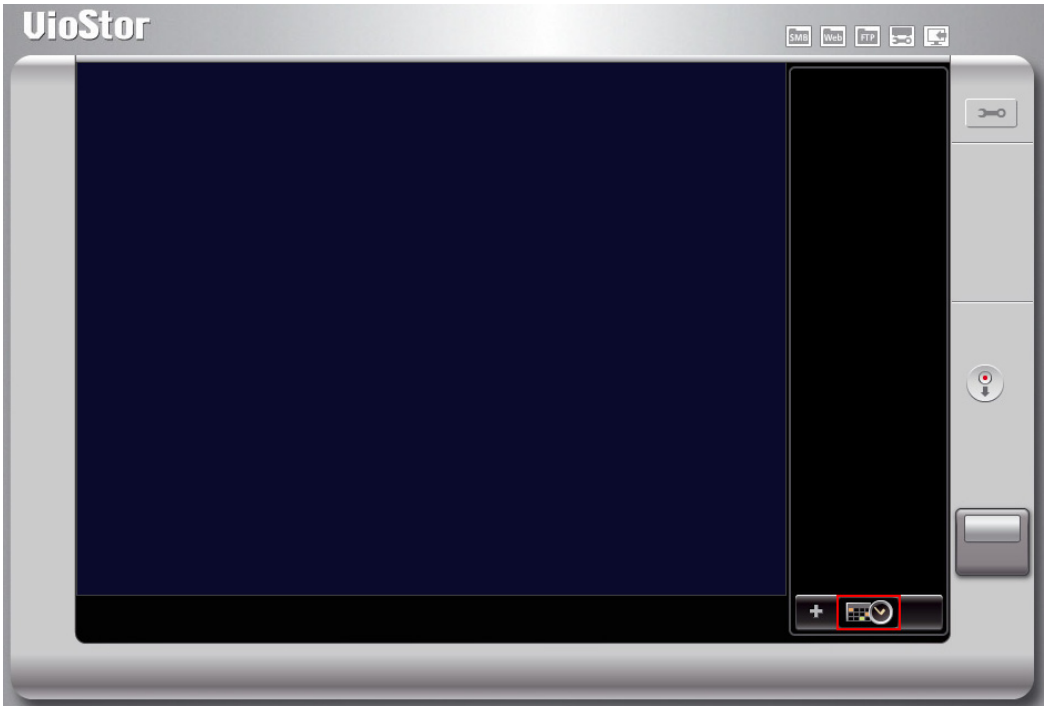
5.1 Use the Web-based Playback Interface (VioStor Player)

1. Click the playback button on the monitoring page.
2. VioStor Player will be shown. You can use this program to search and play the recording files on the NVR servers. To return to the monitoring page, click . To enter the system administration page, click .

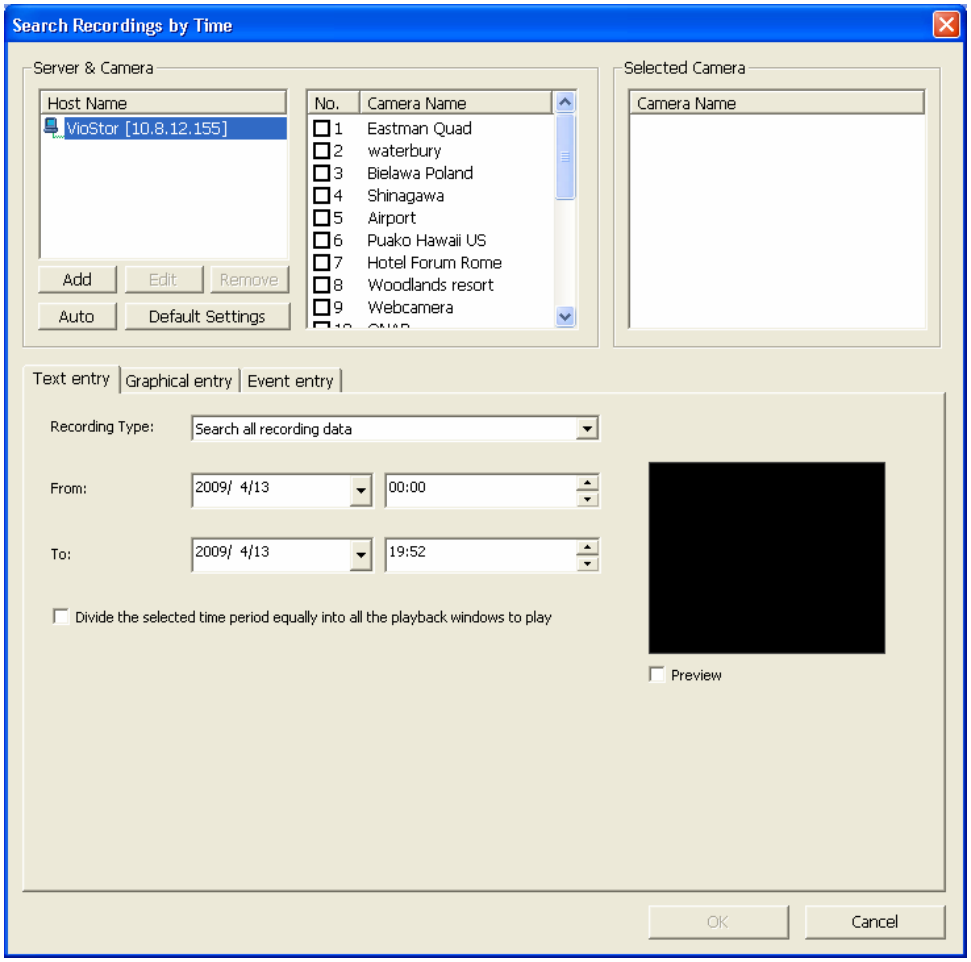
Note: You must have the access rights to the IP cameras in order to view and play the recording files by VioStor Player. Please refer to Chapter 6.5 for access right configuration.

5.1.1 Connect to Server for Playback

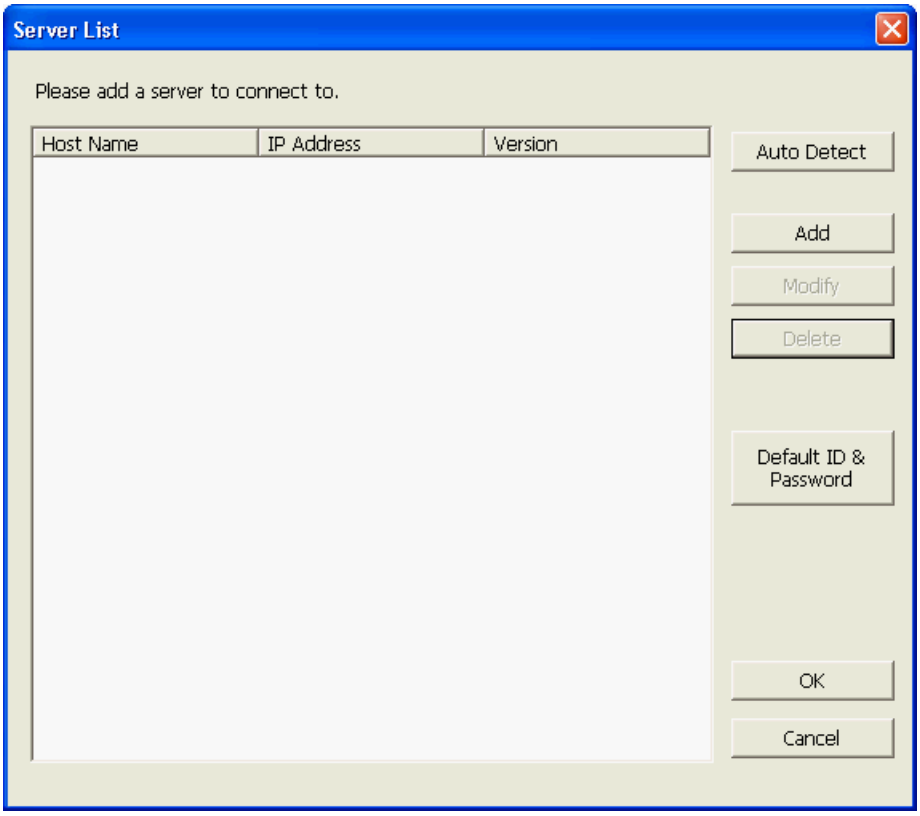
1. Click 'Play by Time' .



2. The following dialog will be shown.

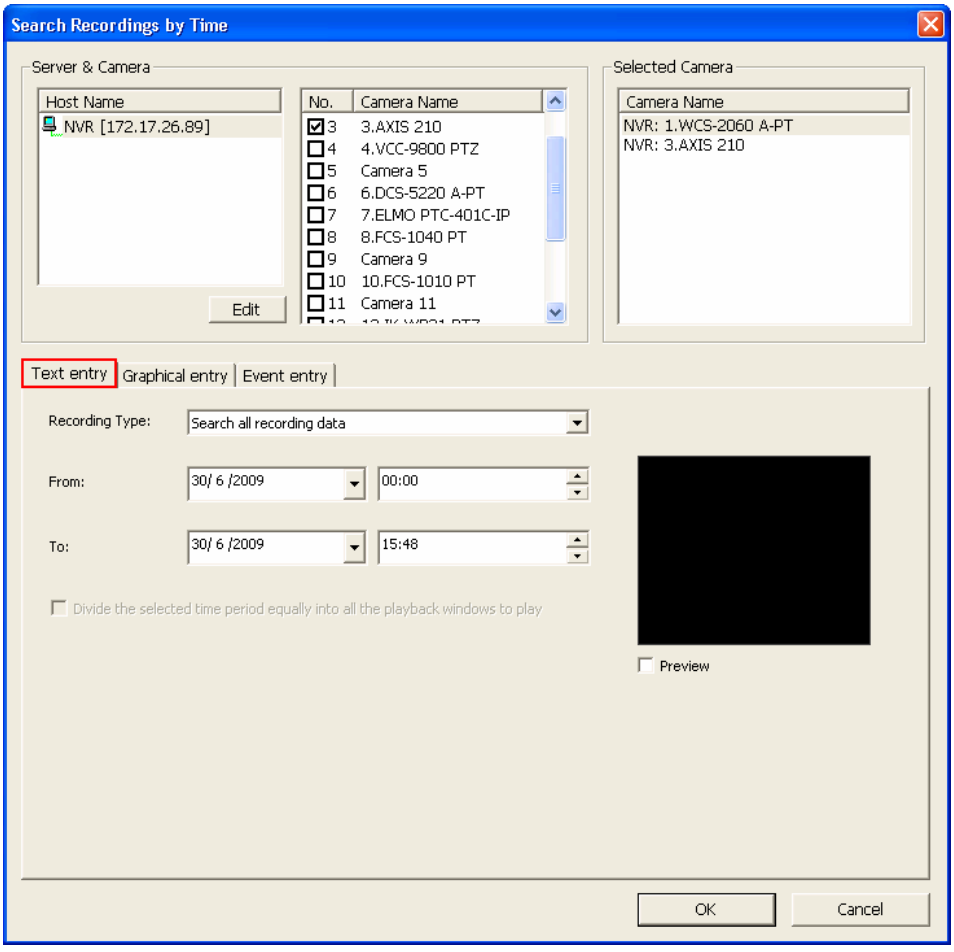


3. Configure servers:
   a. Add: Add a server.
   b. Modify: Modify a server.
   c. Remove: Remove a server.
   d. Auto: Auto-search servers.
   e. Default settings: Enter the default user name and password for all newly added servers.



4. Select the data search mode.
   - **Date and time search (Text entry)**
     i. Select the NVR server(s) and the IP camera(s)*.
     ii. Click the 'Text entry' tab.
     iii. Select the recording type, the start and end time when the video is recorded.
     iv. Click 'Preview' to preview the searched video.
     v. Click 'OK'.

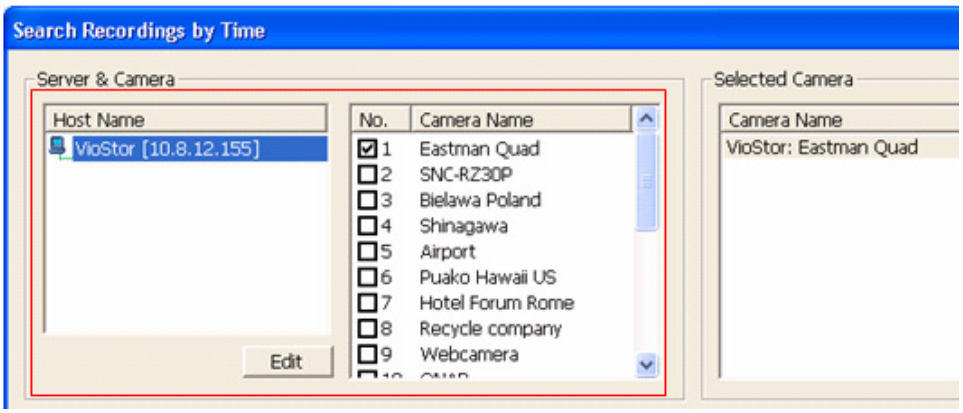
* You can select 4 IP cameras at maximum.



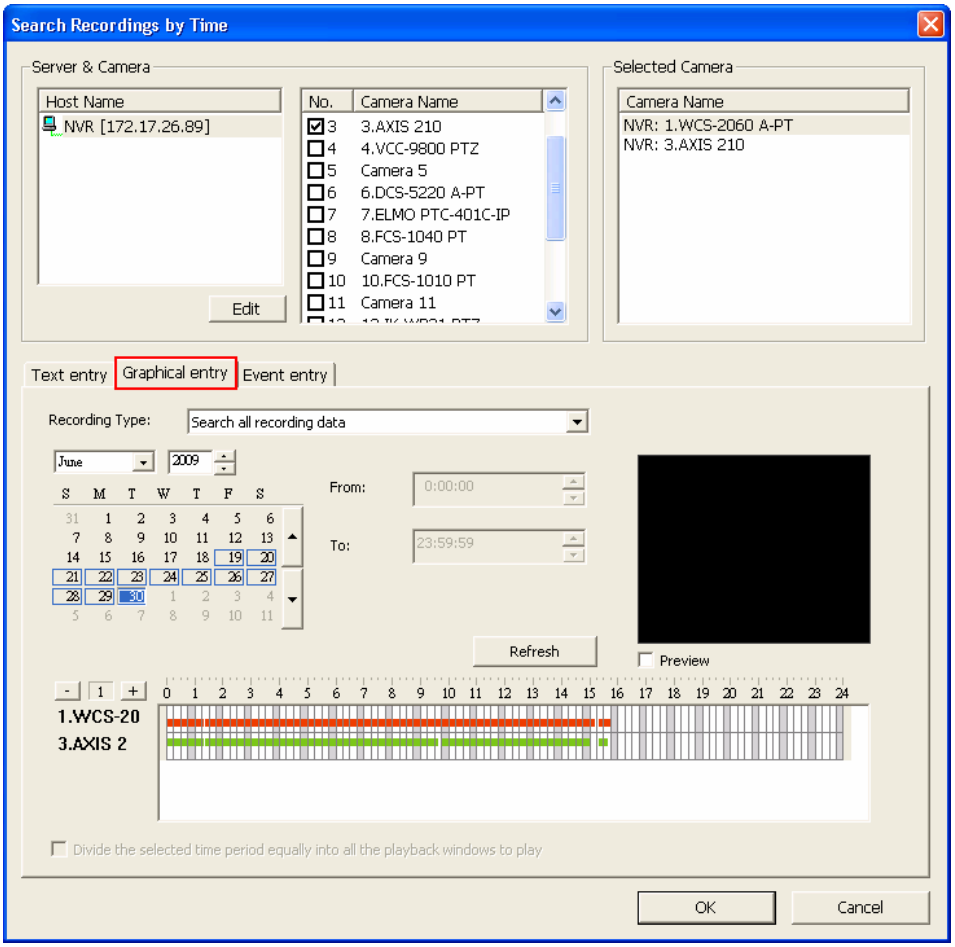
- **Timeline search**

  i. Select the NVR server(s) and the IP camera(s)*.

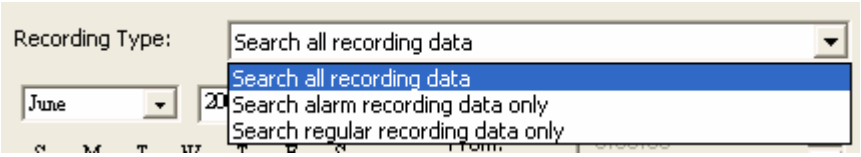
  * You can select 4 IP cameras at maximum.



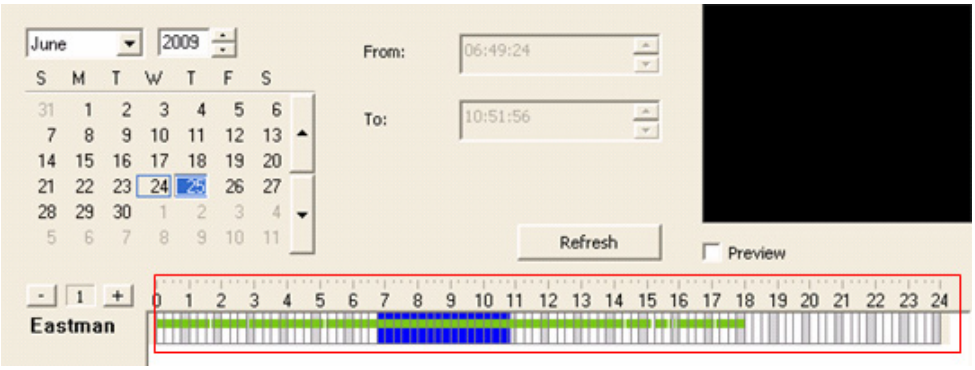
  ii. Click the 'Graphical entry' tab.



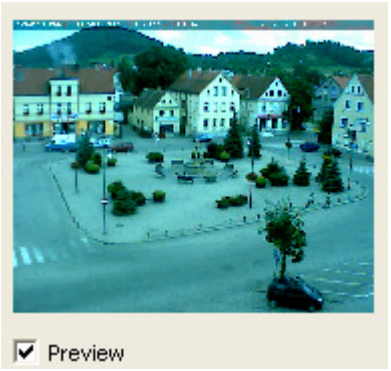
iii. Select the recording type.



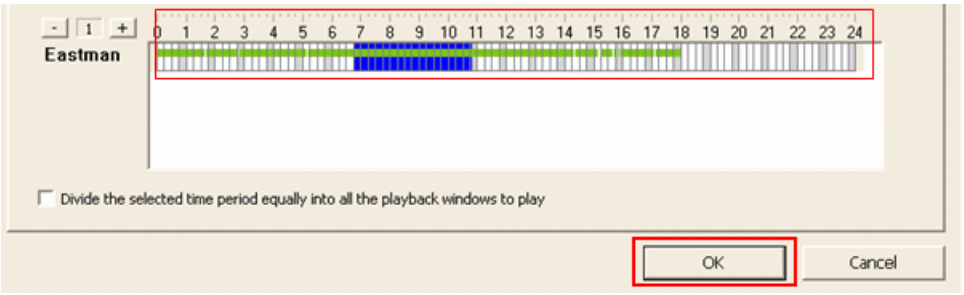
iv. Specify the time range when the files are recorded. The settings will be applied to all the cameras selected.



v. Click 'Preview' to preview the searched video.



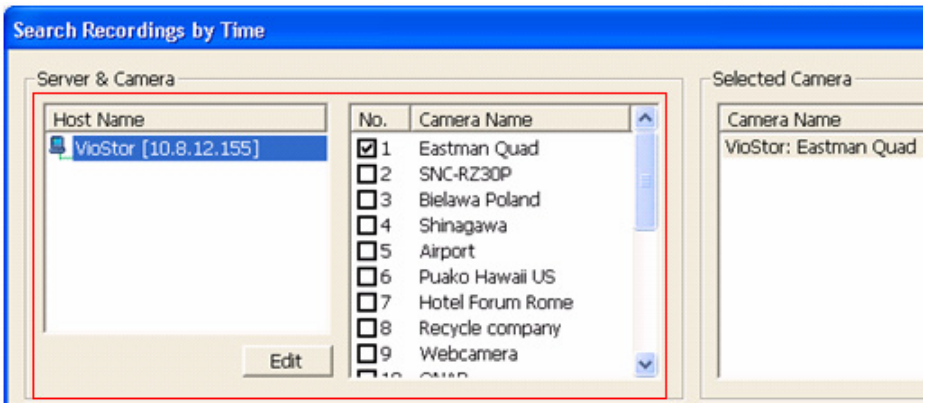
vi. Click 'OK'.


Eastman
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Divide the selected time period equally into all the playback windows to play
OK
Cancel

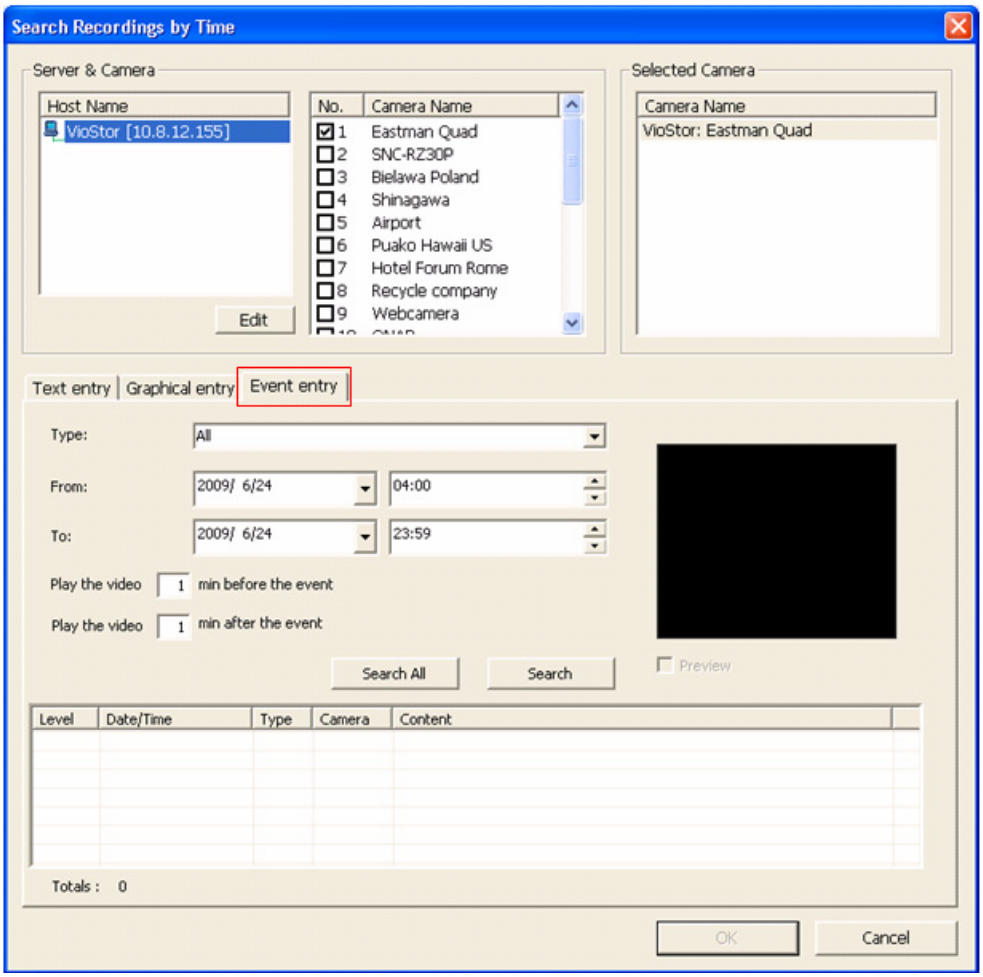
- **Event entry**

  i. Select the NVR server(s) and the IP camera(s)*.

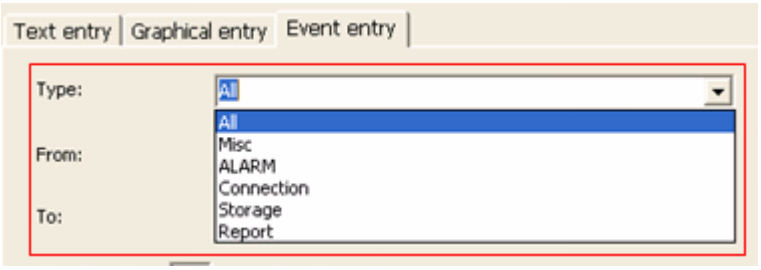
  * You can select 4 IP cameras at maximum.



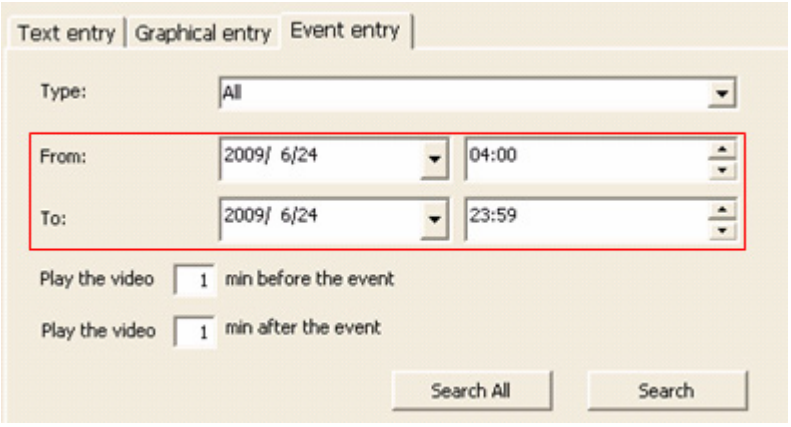
  ii. Click the 'Event entry' tab.



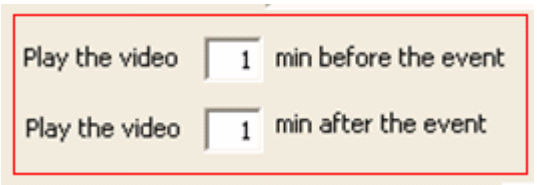
iii. Select the event type.



iv. Specify the time range when the files are recorded.

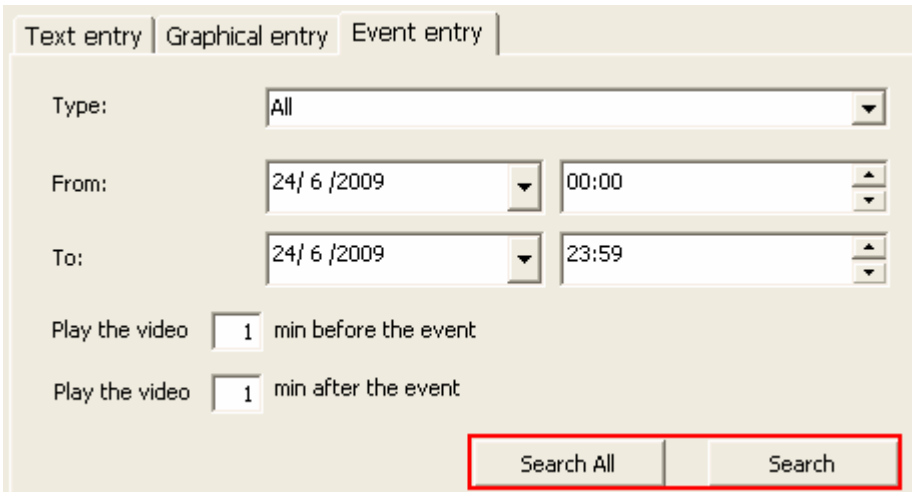


v. Specify the number of minutes to play the video recorded before and after the event.



vi. Event search. This function is provided for you to search for all the events occurred on the IP cameras. You may refer to the event details to search for the recording data.

- ✓ Search all: Search for the specified events occurred on all the IP cameras of an NVR within the time range specified.
- ✓ Search: Search for the specified events occurred on one IP camera within the time range specified.



vii. The events will be shown. Click 'OK'.

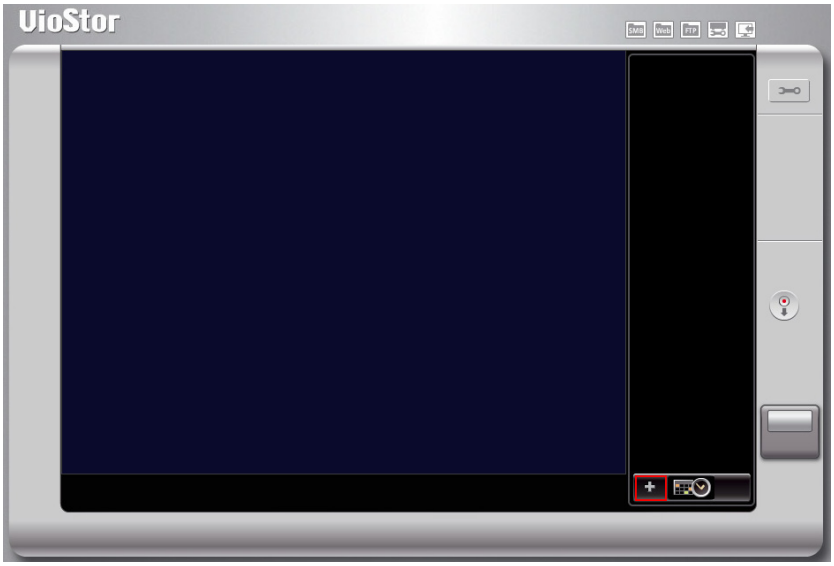
Level
Date/Time
Type
Camera
Content
Inform... 2009-07-14 00:00:23 Misc 4 Set video quality on Camera 4 failed due to authentication failure.
Inform... 2009-07-14 00:02:17 Misc 11 Set video quality on Camera 11 failed due to authentication failure.
Inform... 2009-07-14 00:02:18 Misc 17 Set video quality on Camera 17 failed due to authentication failure.
Inform... 2009-07-14 00:02:24 Misc 13 Set video quality on Camera 13 failed due to authentication failure.
Inform... 2009-07-14 00:04:45 Misc 12 Set video quality on Camera 12 failed due to authentication failure.
Inform... 2009-07-14 00:05:02 Report 1 Recording report for Camera 1 on 2009-07-13: Total size of regular recor...
Inform... 2009-07-14 00:05:02 Report 2 Recording report for Camera 2 on 2009-07-13: Total size of regular recor...
Totals : 612
OK
Cancel

5. When the files are shown, you can play the video.

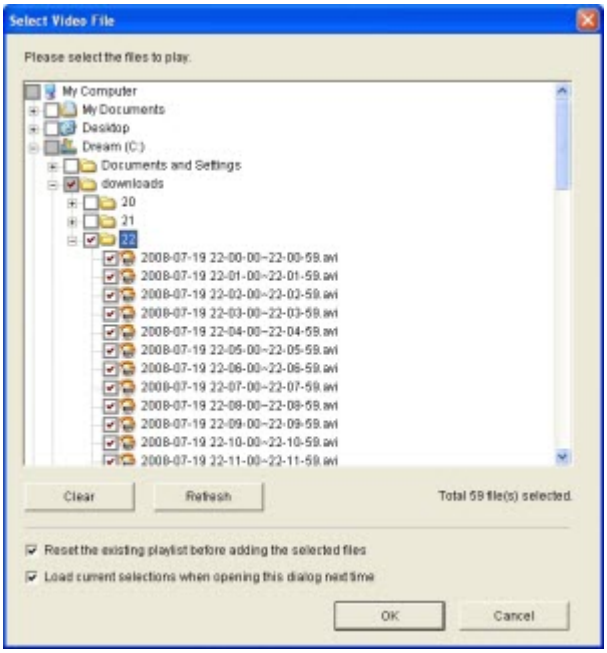
Note: The regular recordings are shown in white while the alarm recordings are shown in red on the playlist.

5.1.2 Play Video Files from Your Computer

1. Click 'Add files' .



2. Browse and select the files.



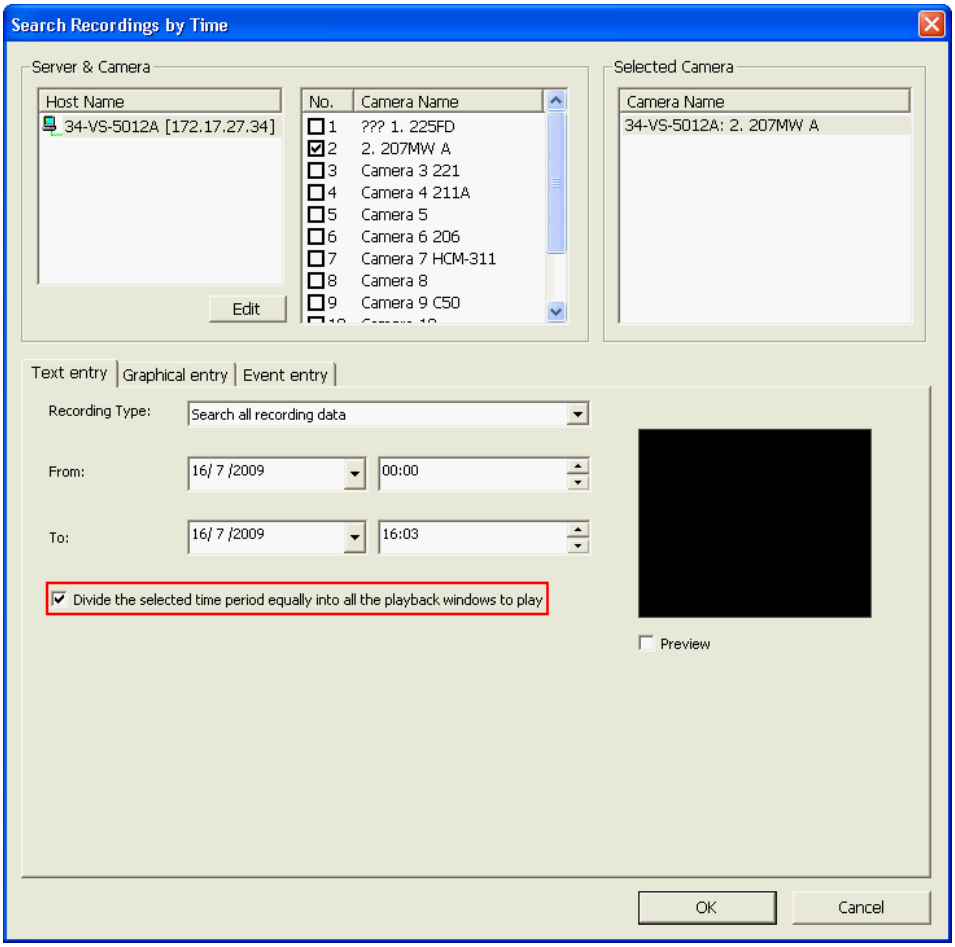
3. The playlist will be shown. Click 'Play' to start playing.

5.1.3 Quad-view Playback

The quad-view playback feature allows you to search for the video recorded by the NVR servers quickly. You can view the videos of four IP cameras simultaneously or select to divide the video of one IP camera into four time periods and play them in a quad-view window.

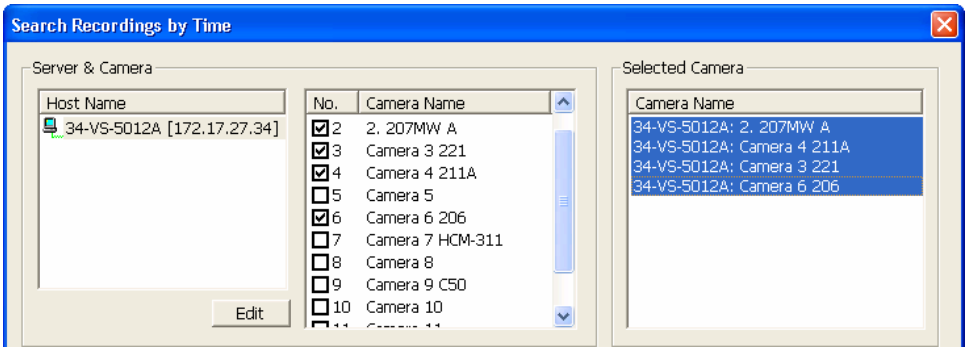
✓ **Divide the selected time equally into four playback windows**

Select only one camera. Click 'Text entry' or 'Graphical entry'. Enter the search criteria and check the option 'Divide the selected time period equally into all the playback windows to play'. Click 'OK'.



✓ **Play the video of four IP cameras**

Select four IP cameras. Enter the search criteria in the 'Text entry' or 'Graphical entry'. When the search results are shown, you can play the video files of the four IP cameras simultaneously.



5.1.4 Intelligent Video Analytics (IVA)

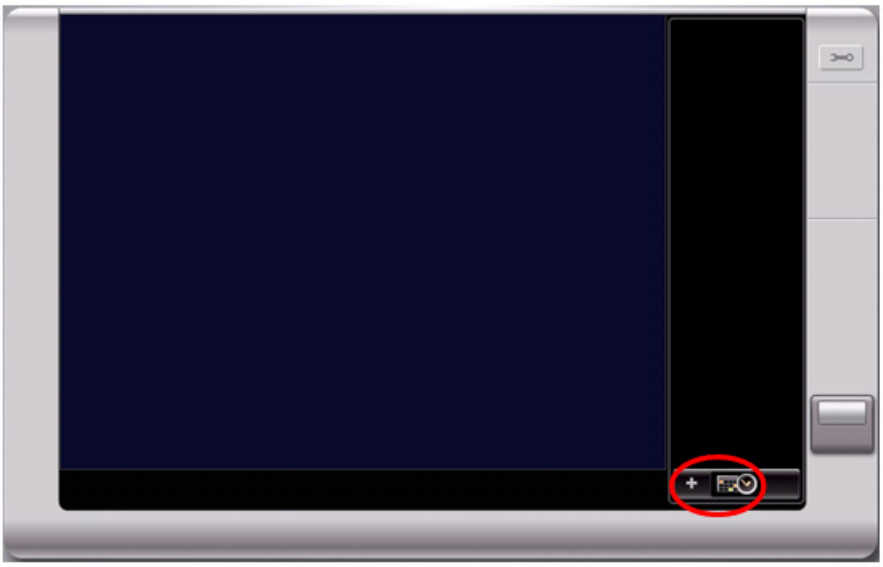
The NVR supports intelligent video analytics to allow the users to search the video files efficiently.

The following features are supported for video analytics:

- ✓ Motion detection: Detects the movement of the objects in the video.
- ✓ Foreign object: Detects the new object in the video.
- ✓ Missing object: Detects the missing object in the video.
- ✓ Out of focus: Detects out of focus of the camera in the video.
- ✓ Camera occlusion: Detects if the IP camera is obstructed.

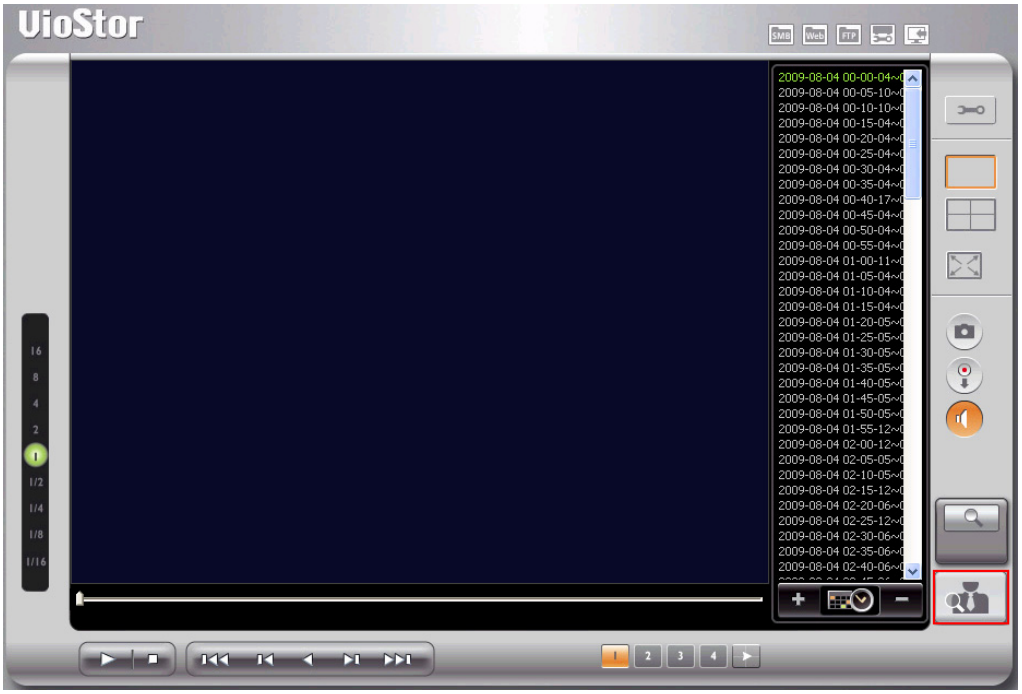
To use this function, follow the steps below:

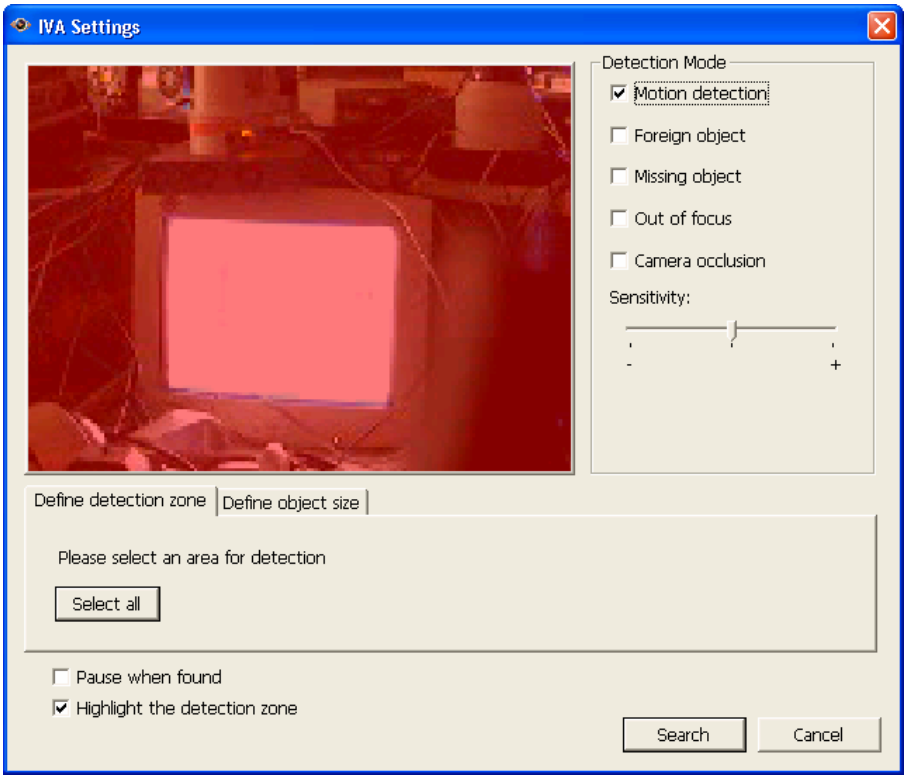
1. Go to the Playback page of the NVR. Add the files to the playlist.



Note: The intelligent video analytics support video search on one channel only.

2. On the playback window, click .

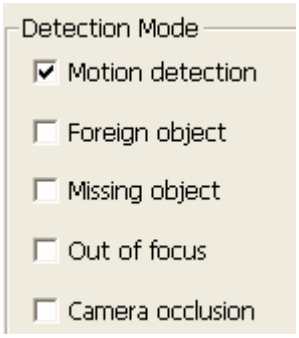




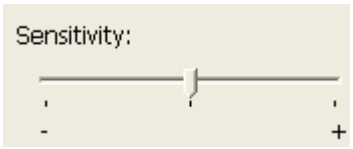
Note:

- ✓ When you check the option 'Pause when found', the data search stops when a video file which matches the search criteria is found.
- ✓ When you enable 'Highlight the detection zone', the moving objects will be highlighted in red brackets; the foreign or missing objects will be highlighted in yellow brackets; the video which is out of focus or obstructed will be displayed in transparent red.

3. Select the detection mode: motion detection, foreign object, missing object, out of focus, or camera occlusion. You can select multiple options.

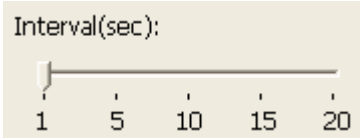


4. Adjust the sensitivity for object detection.

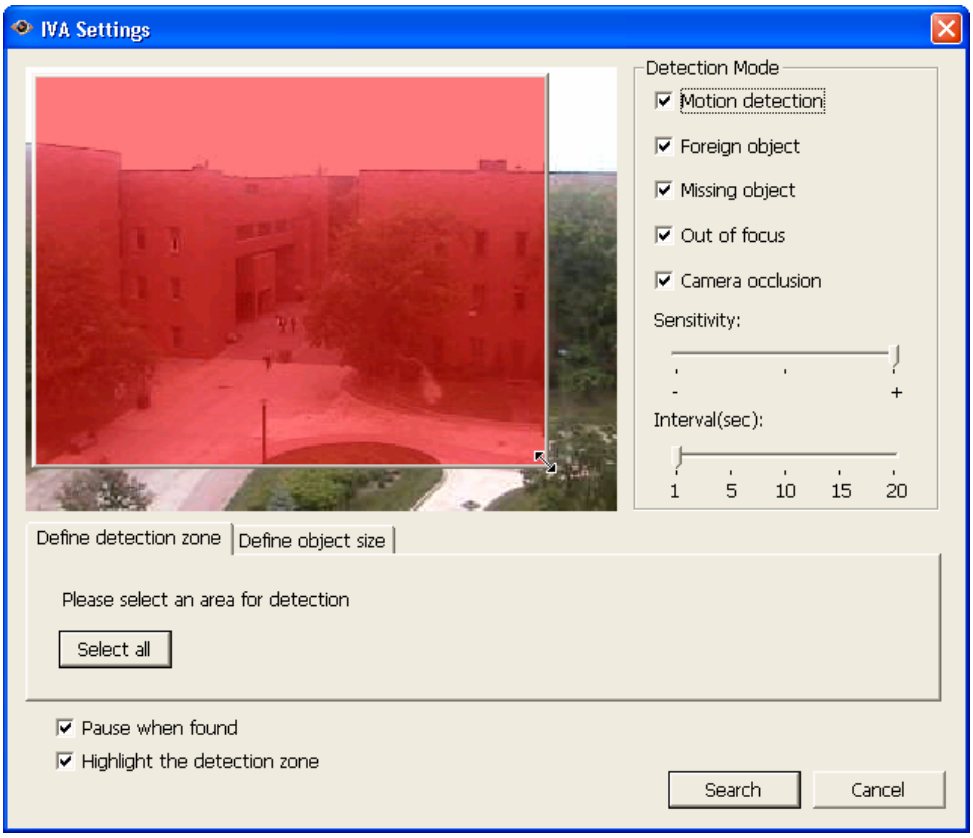


5. Adjust the time interval for detecting the foreign objects and missing objects. If a foreign object appears or a missing object disappears for a time period which is longer than the time interval, the NVR will record an event.

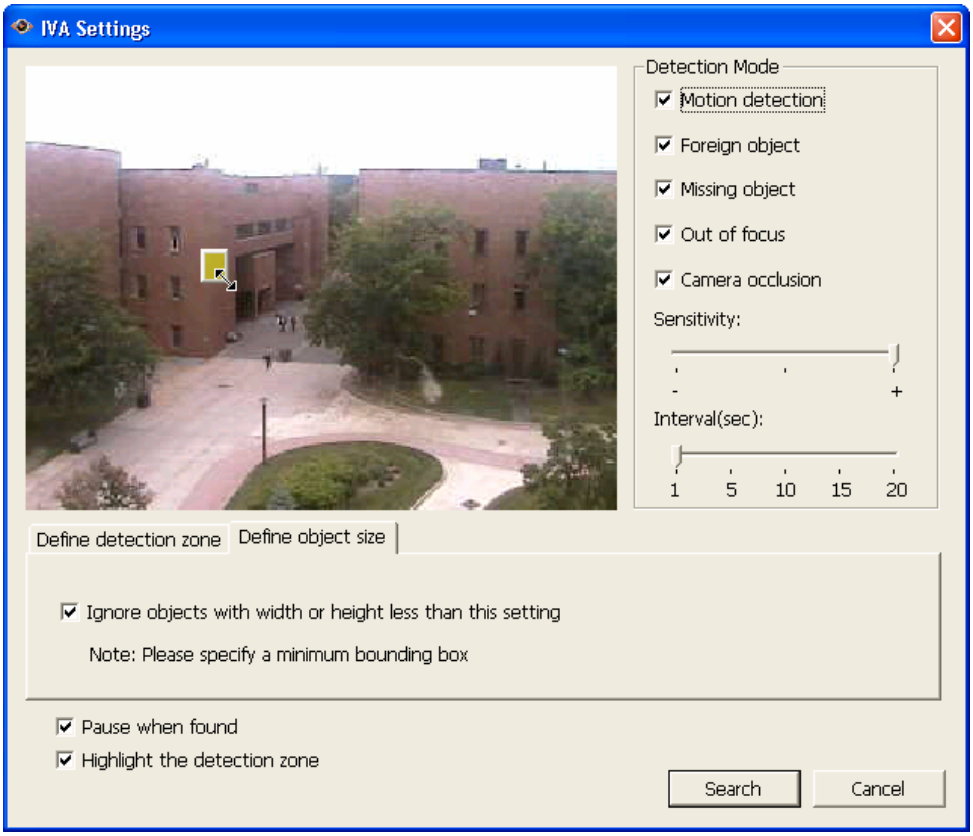
Note: The interval slide bar appears only when the options 'foreign object' or 'missing object' is checked.



6. Define the detection zone. Mouse over the edge of the red zone and use the mouse to define the detection zone. Click 'Select all' to highlight the entire area for detection.

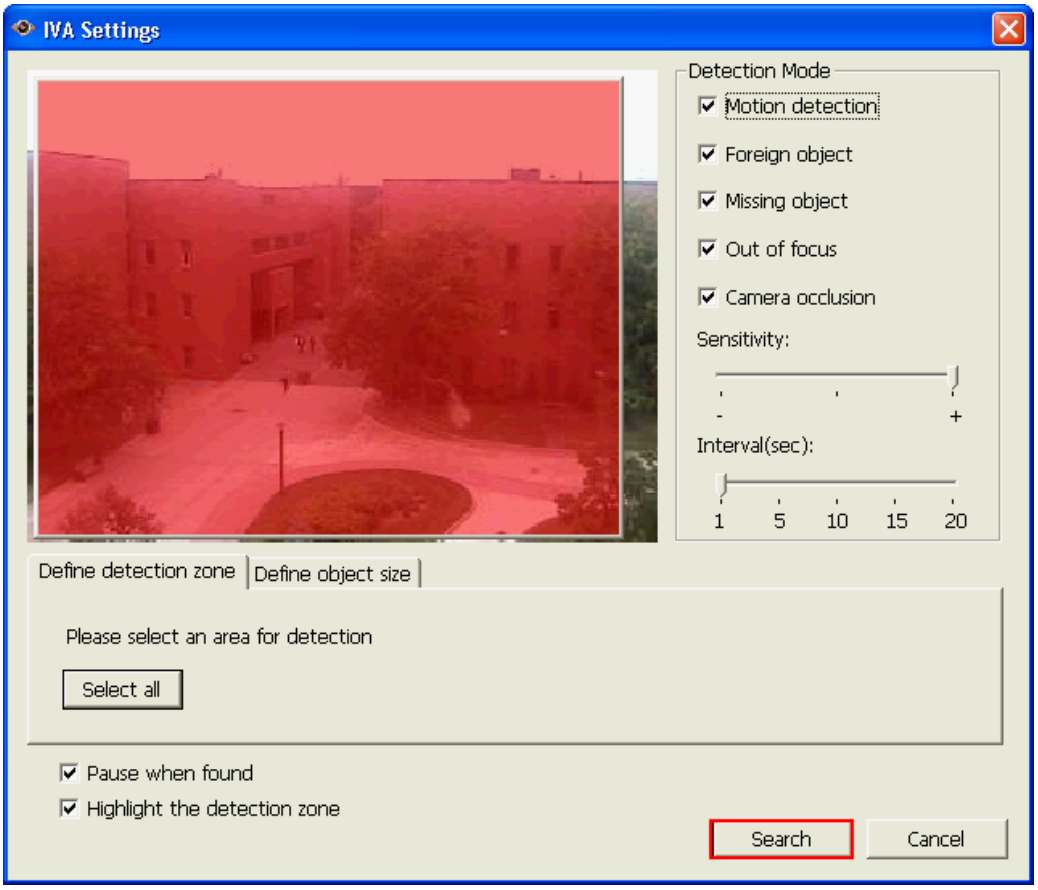


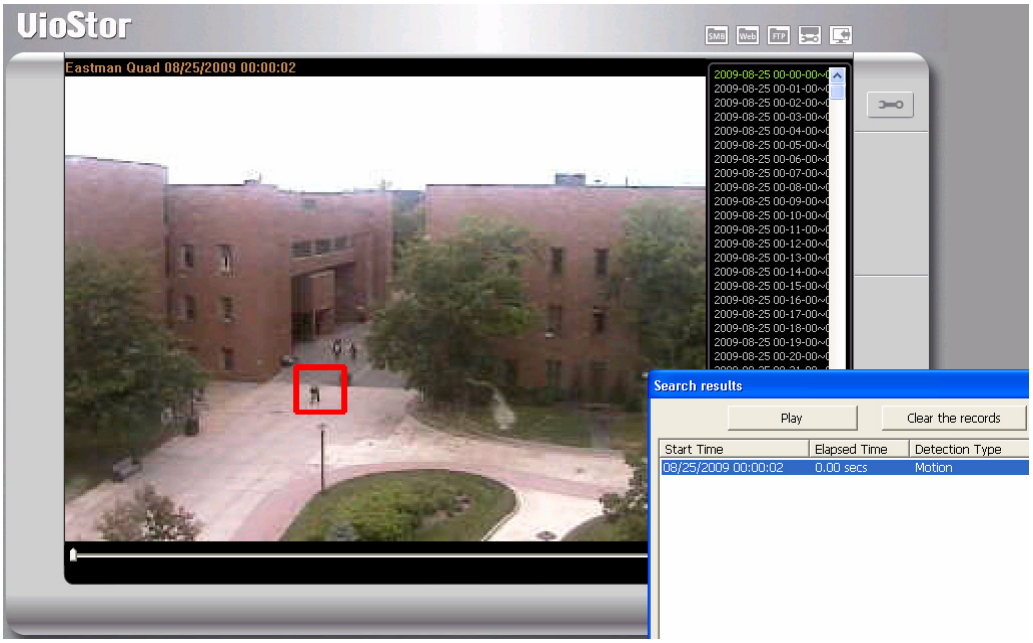
7. Define the object size for the detection. You can use the mouse the drag the yellow zone to define the minimum object size for detection.



Note: After enabling this option, all the objects smaller than the yellow zone will be ignored for detection.

8. Click ‘Search’ to start searching the video by IVA. The results will be shown.





Note:

- You can double click an entry on the search result dialog to play the video. The player will play the video starting from 15 seconds before the event to 15 seconds after the event.
- You can also right click an entry on the search result dialog to export the video and save it on your computer. The exported video starts from 15 seconds before the event to 15 seconds after the event.

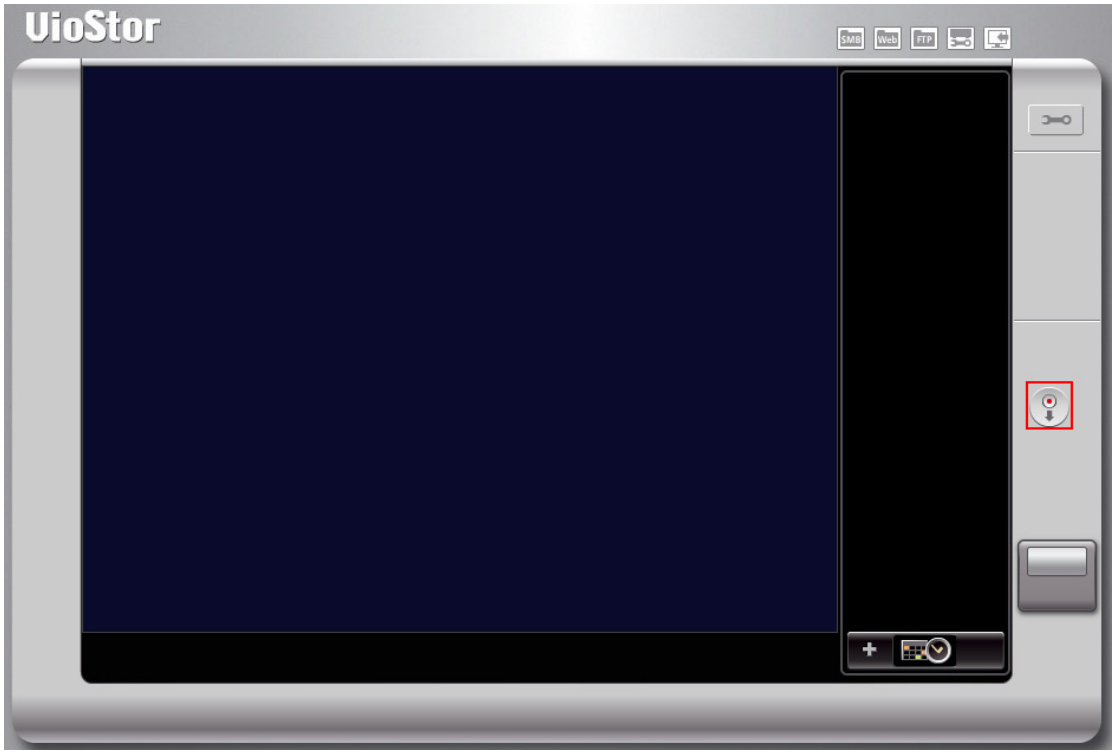
5.1.5 Convert to AVI File

You can save the recording files recorded by VioStor as AVI files to your PC.

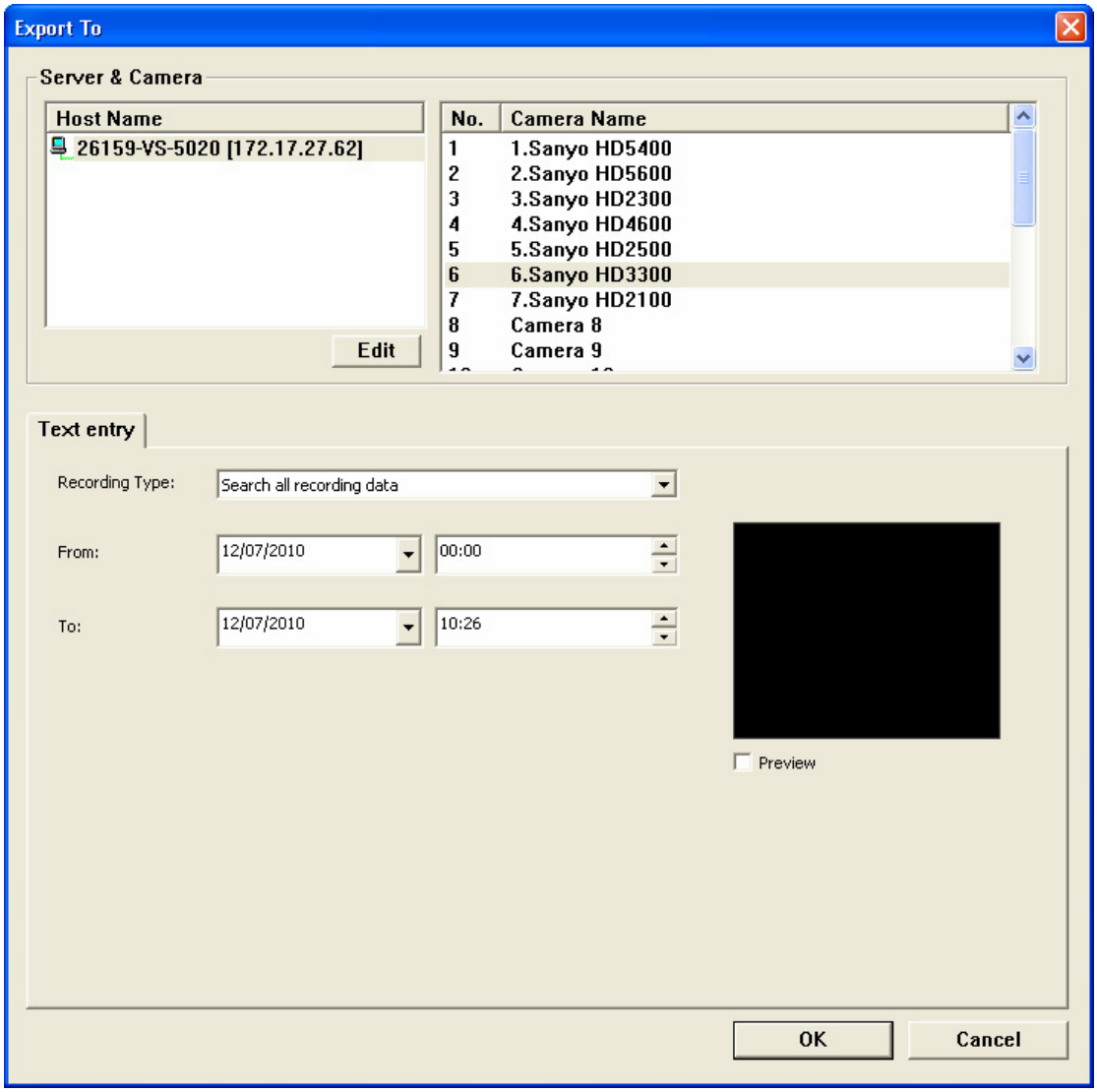
Note: You must have the playback authority of the IP camera to use this feature.

Follow the steps below to save the video from VioStor.

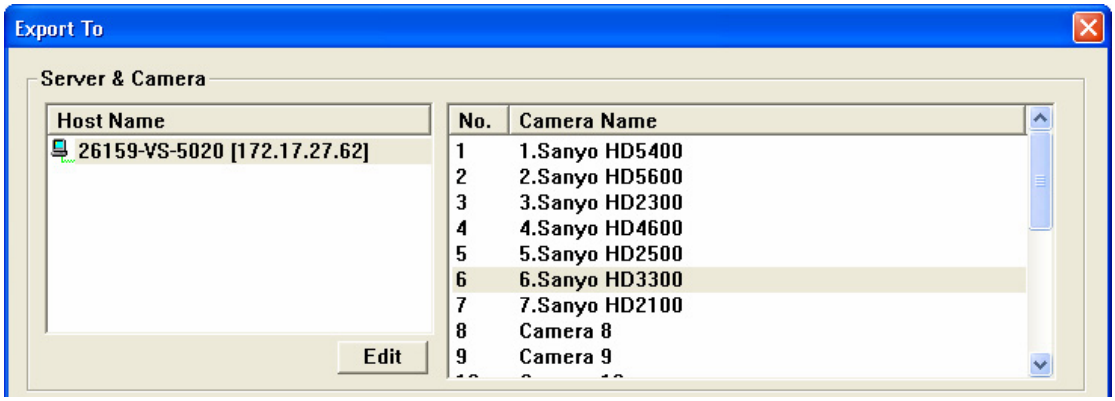
1. Click 'Convert to AVI file'.



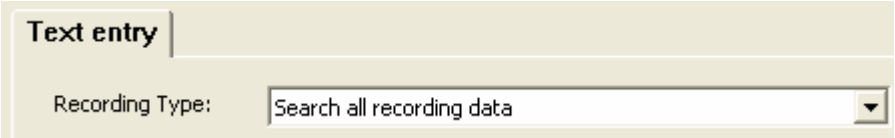
2. The following screen will be shown.



3. Select the NVR server and IP camera.



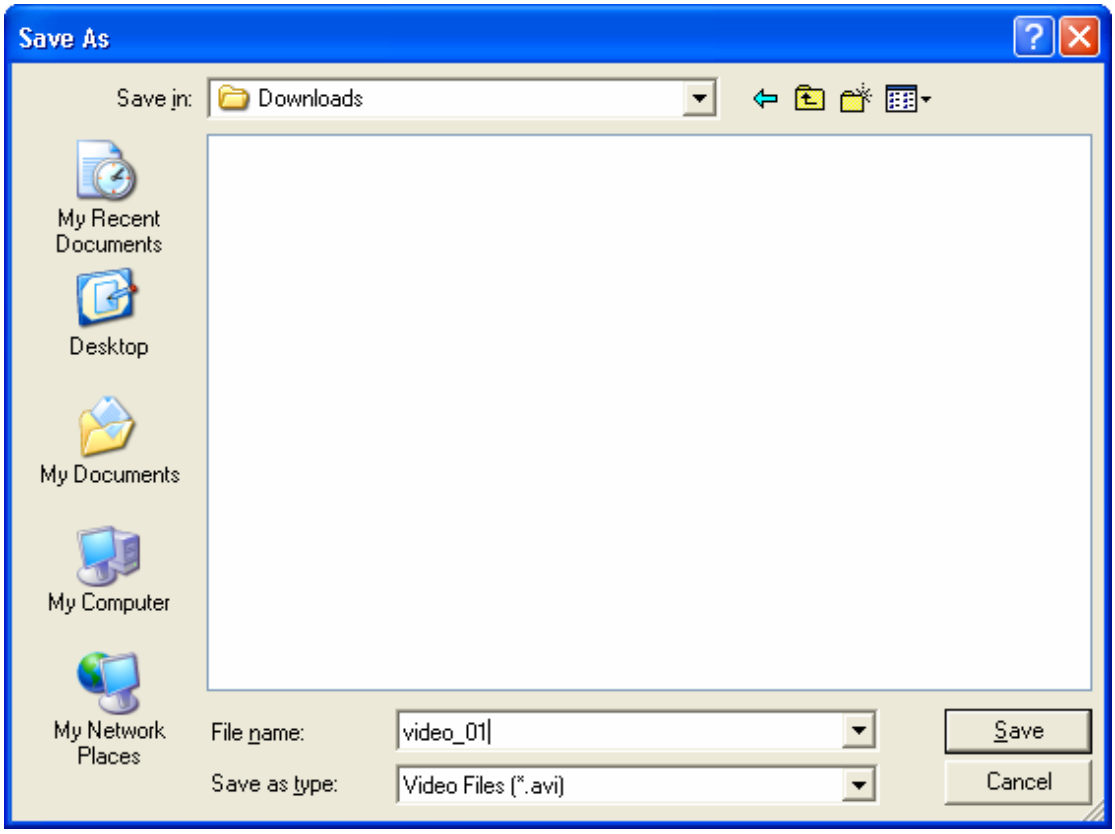
4. Enter the recording type.



5. Specify the time range for the search.

6. Click 'Preview' to preview the searched video.

7. Click ‘OK’. Enter the file name and specify the location where the file is saved to.



8. The file will be converted to AVI format.

5.2 Digital Watermarking

VioStor NVR supports digital watermarking to protect the videos and snapshots from unauthorized modification. You can select to add the digital watermark on the exported video and snapshot on VioStor Player. A permanent digital signal will be added to the exported files which are selected for digital watermarking. The watermark cannot be removed and is only visible by using the watermark proof software.

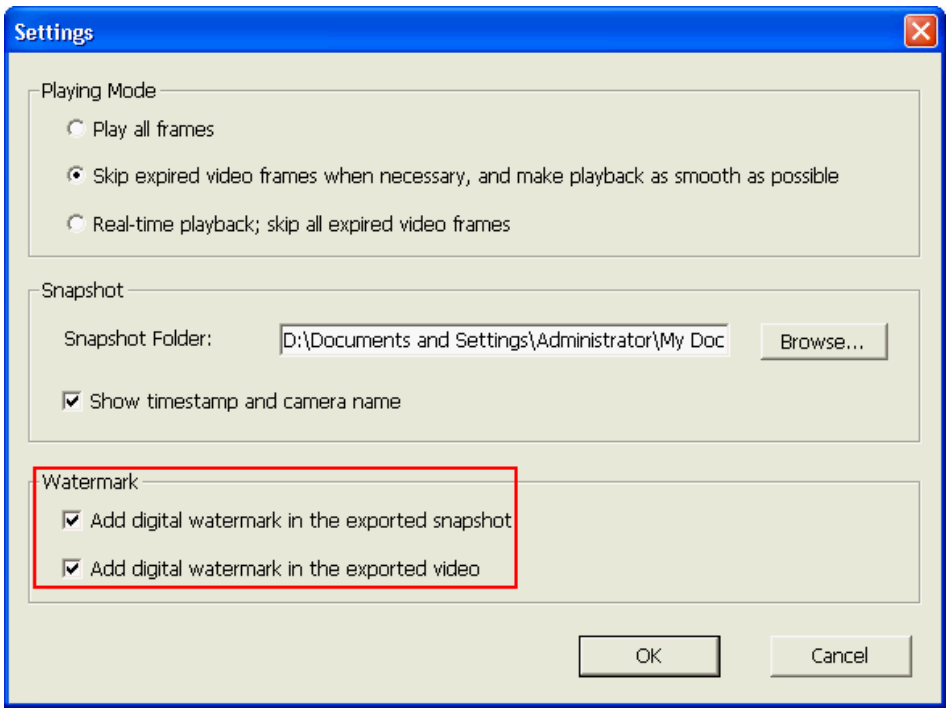
5.2.1 Export Files with Digital Watermark

To use the digital watermarking feature by VioStor Player, follow the steps below.

1. Click 'Playback' to open VioStor Player.

2. Click 'Settings' .

3. Select to add digital watermark in the exported snapshot or video.



4. Select the recording files (refer to Chapter 5).

5. Click to convert the video files into AVI format.

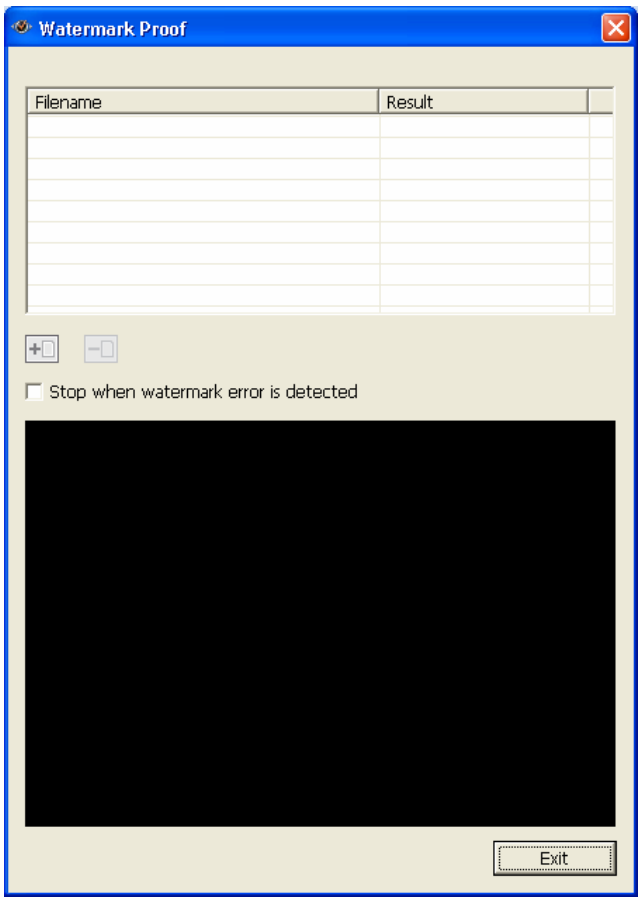
6. Click to start playing and exporting the files.

Note: When you click again, the NVR will stop exporting the files and resume to the playback mode.

5.2.2 Watermark Proof

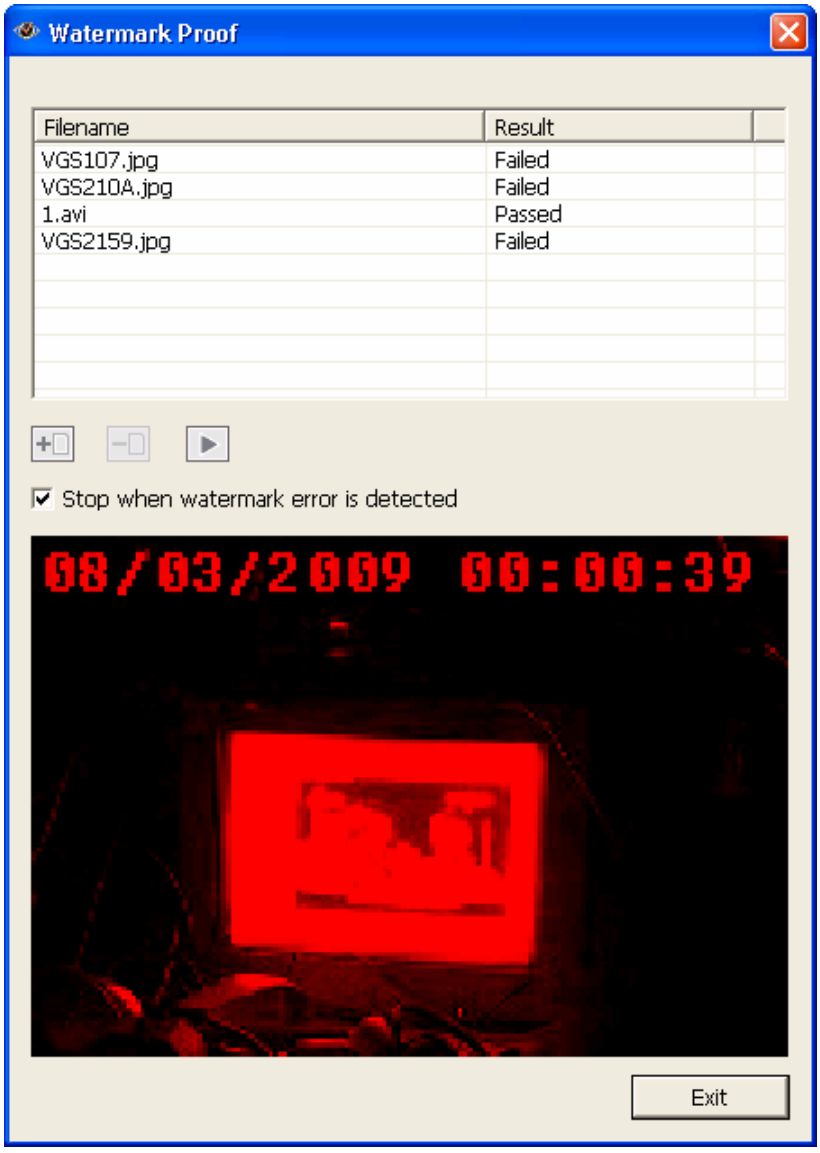
The Watermark Proof utility is installed automatically along with VioStor Player. From the Windows Start menu, select 'All Programs' > 'QNAP' > 'Player' to locate 'Watermark Proof'.

Run Watermark Proof. The following window will be shown.



Click to browse and locate the files. You can select more than one file at one time.

Click to start checking the files. The Watermark Proof will start checking the files and show the proof result. If you check the option 'Stop when watermark error is detected', the checking procedure will stop if a failed file is detected. Otherwise the program will check all the files you have selected. If a file has been modified, the proof result will be shown as 'Failed'.



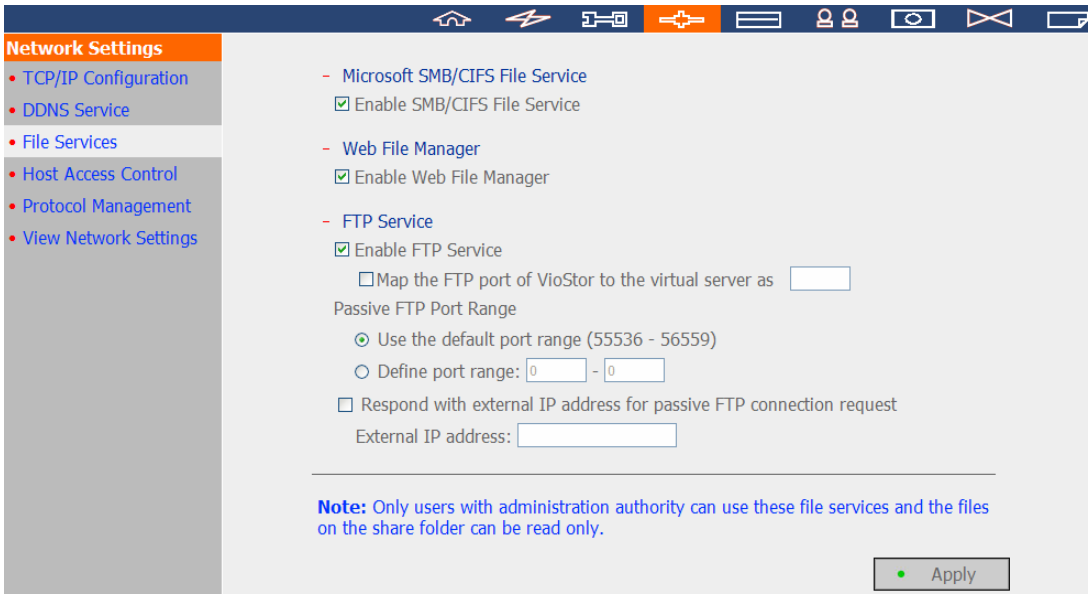
5.3 Access the Recording Data

You can access the recording data on VioStor by the following network services:

- Windows Network Neighbourhood (SMB/CIFS)
- Web File Manager (HTTP)
- FTP Server (FTP)

Note:

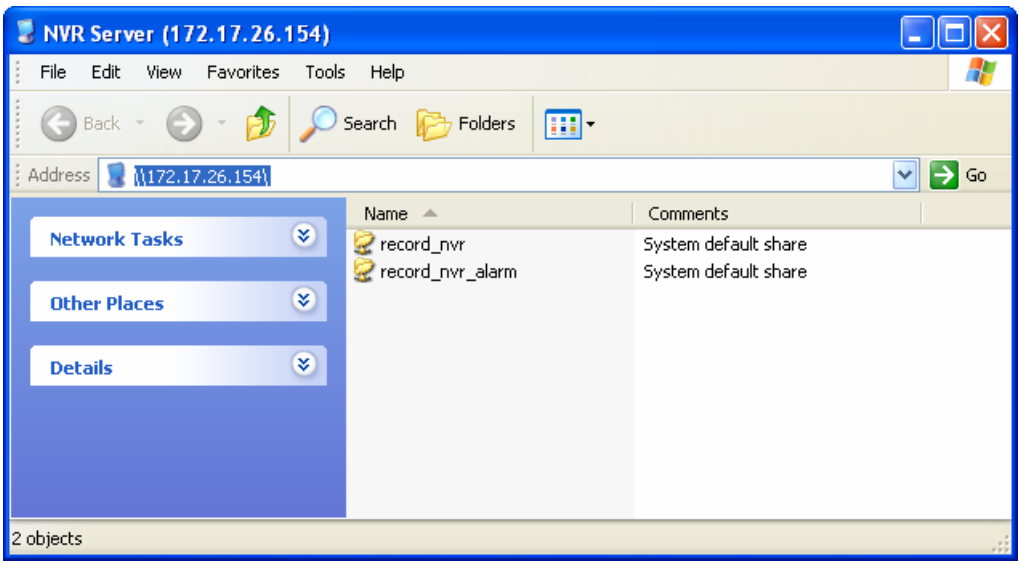
- To access the video file by these protocols, you must enter the user name and password with the administrator access right.
- To be able to use these services, enable the files services in 'Network Settings' > 'File Services' in the system administration page.


Network Settings
TCP/IP Configuration
DDNS Service
File Services
Host Access Control
Protocol Management
View Network Settings
Microsoft SMB/CIFS File Service
Enable SMB/CIFS File Service
Web File Manager
Enable Web File Manager
FTP Service
Enable FTP Service
Map the FTP port of VioStor to the virtual server as
Passive FTP Port Range
Use the default port range (55536 - 56559)
Define port range:
Respond with external IP address for passive FTP connection request
External IP address:
Note: Only users with administration authority can use these file services and the files on the share folder can be read only.
Apply

5.3.1 Windows Network Neighbourhood (SMB/CIFS)

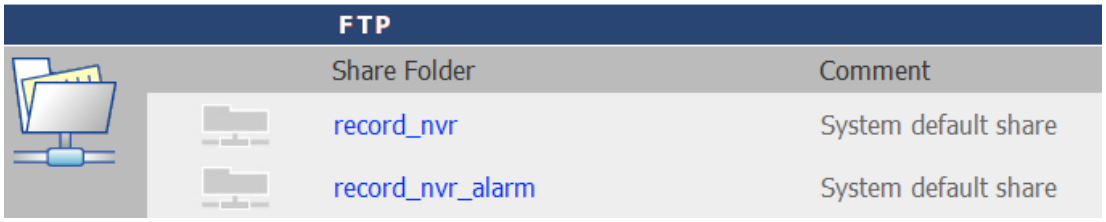
You can access the video files by the SMB/CIFS protocol, which is popularly used on the Windows OS. You can access the folder to where the video files are saved by:

- On the web-based playback interface, click 'SMB'.
- Run \\VioStorIP\ from the Start menu on the Windows OS. For example, if your VioStor IP is 172.17.26.154, enter \\172.17.26.154.



5.3.2 Web File Manager (HTTP)

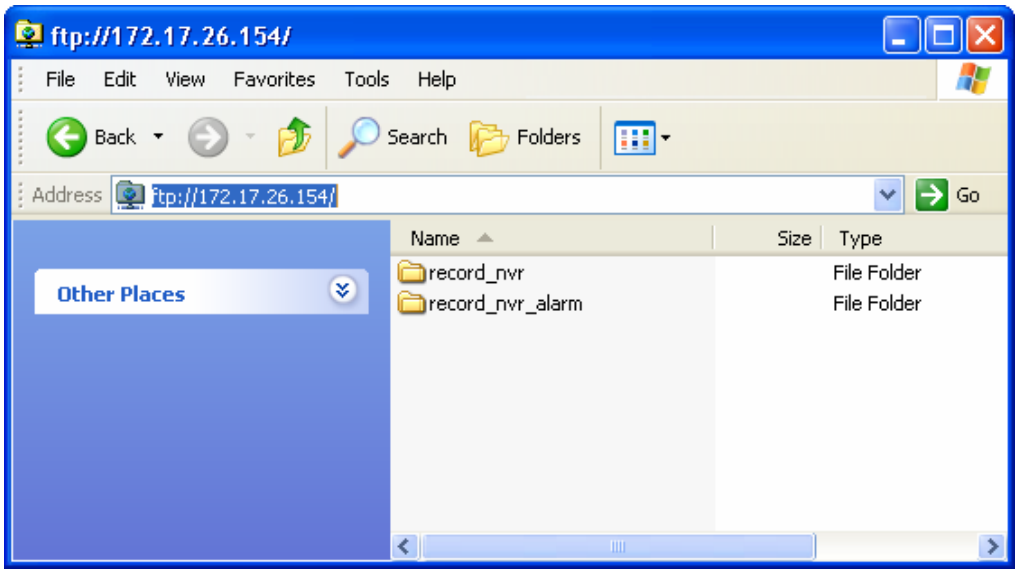
To access the recording data on the NVR from the web browser, click 'Web' on the web-based playback interface and login as an administrator.



5.3.3 FTP Server (FTP)

You can access the recording data by FTP:

- On the web-based playback interface, click 'FTP'.
- In Windows Internet Explorer, enter ftp://username:password@VioStorIP/. For example, enter ftp://admin:admin@172.17.26.154/ if the IP address of your VioStor is 172.17.26.154.



Chapter 6. System Administration

To login the system configuration page of VioStor, click on the monitoring page and login as an administrator.

Upon successful login, you can view the monitoring channels, the connection and recording status, and the network bandwidth of the NVR on the 'Advanced Mode' page.

You can also select the 'Traditional Mode' to view the settings of the NVR.

<<< Advanced Mode
Quick Configuration
Quick step-by-step server setup
User Management
Add / Edit / Delete Users
System Settings
Server Name · Date & Time · View System Settings
Camera Settings
Camera Configuration · Recording Settings · Schedule Settings · Alarm Settings · Advanced Settings
Network Settings
TCP/IP Configuration · DDNS Service · File Services · Host Access Control · Protocol Management · View Network Settings
System Tools
Alert Notification · SMSC Settings · Restart/ Shutdown · Hardware Settings · System Update · Backup/ Restore/ Reset Settings · Remote Replication · Hard Disk SMART · E-map · Ping Test · Advanced System Settings
Device Configuration
SATA Disk · RAID Management Tool · USB Disk · UPS
Logs & Statistics
System Event Logs · Surveillance Logs · On-line Users List · Historical Users List · System Connection Logs · System Information

If the NVR is has not been configured yet, the Quick Configuration page will be shown to guide you through the system setup.

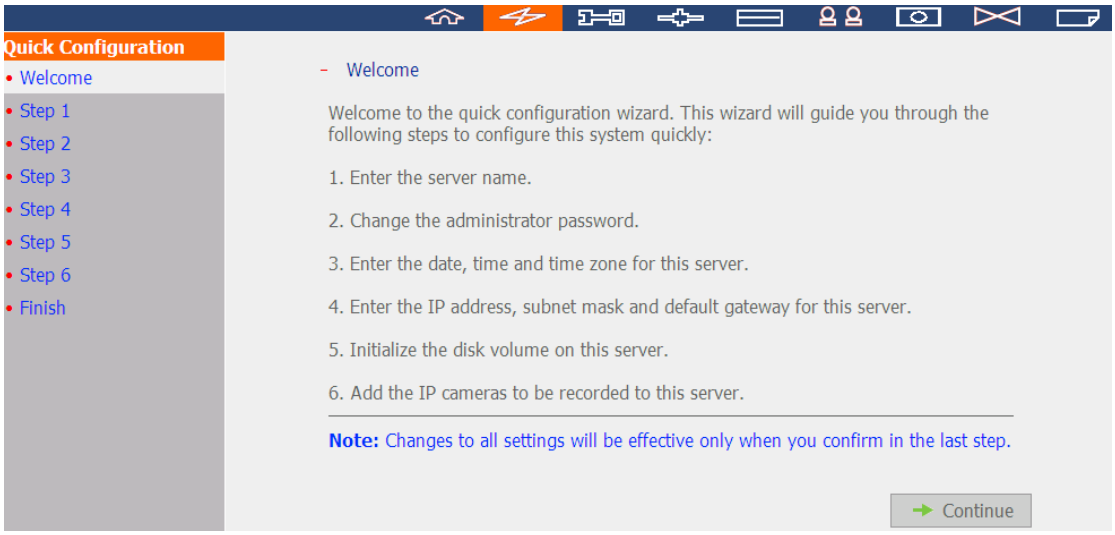
The functions of the buttons on the configuration page are described below:

	Return to the monitoring page
	Playback the videos
	View the on-line help
	Log out the NVR

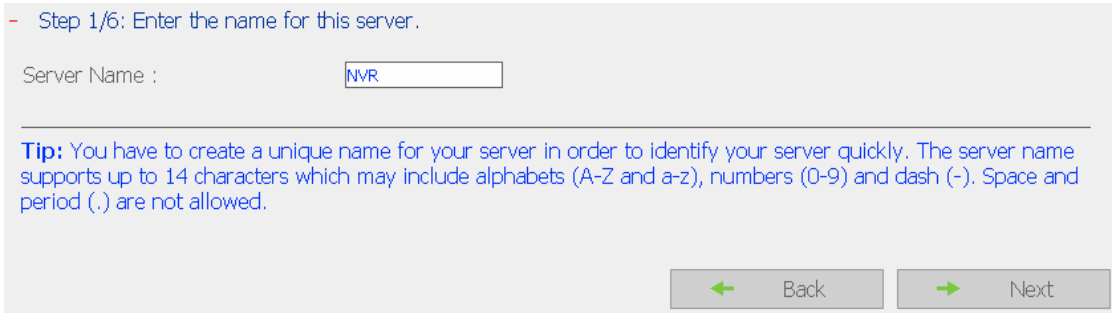
6.1 Quick Configuration

Please follow the instructions to configure VioStor.

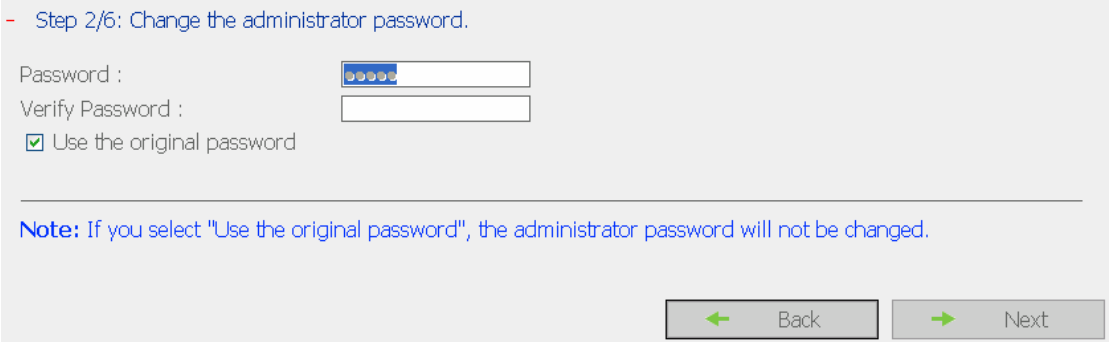
Note: All the changes will be effective only after you click 'Start installation' in the last step.


Quick Configuration
Welcome
Step 1
Step 2
Step 3
Step 4
Step 5
Step 6
Finish
Welcome
Welcome to the quick configuration wizard. This wizard will guide you through the following steps to configure this system quickly:
1. Enter the server name.
2. Change the administrator password.
3. Enter the date, time and time zone for this server.
4. Enter the IP address, subnet mask and default gateway for this server.
5. Initialize the disk volume on this server.
6. Add the IP cameras to be recorded to this server.
Note: Changes to all settings will be effective only when you confirm in the last step.
Continue

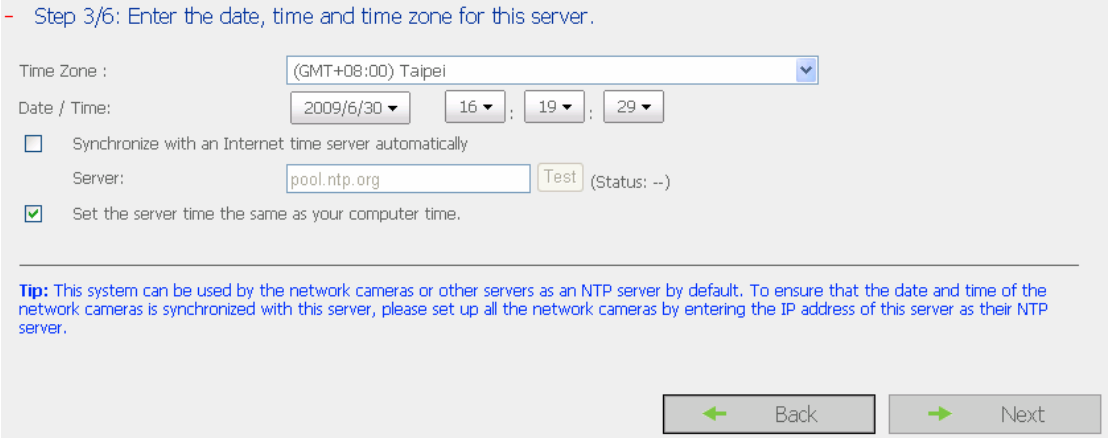
Step 1. Enter the server name. The server name supports up to 14 characters which my include alphabets (A–Z and a–z), numbers (0–9), and dash (-). Space and period (.) are not allowed.


Step 1/6: Enter the name for this server.
Server Name :
NVR
Tip: You have to create a unique name for your server in order to identify your server quickly. The server name supports up to 14 characters which may include alphabets (A-Z and a-z), numbers (0-9) and dash (-). Space and period (.) are not allowed.
Back
Next

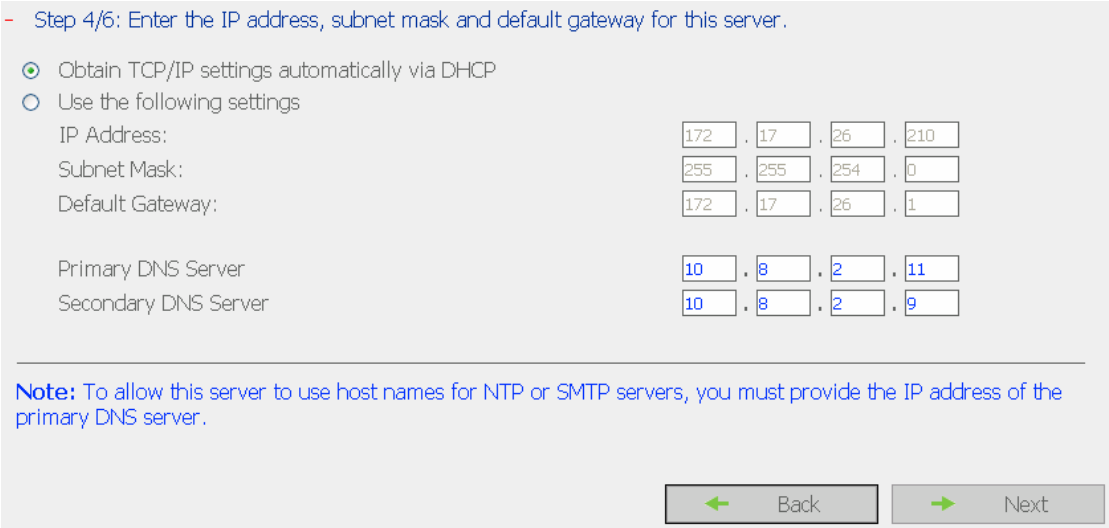
Step 2. Change the administrator password or select to use the default password (admin).


Step 2/6: Change the administrator password.
Password :
Verify Password :
Use the original password
Note: If you select "Use the original password", the administrator password will not be changed.
Back
Next

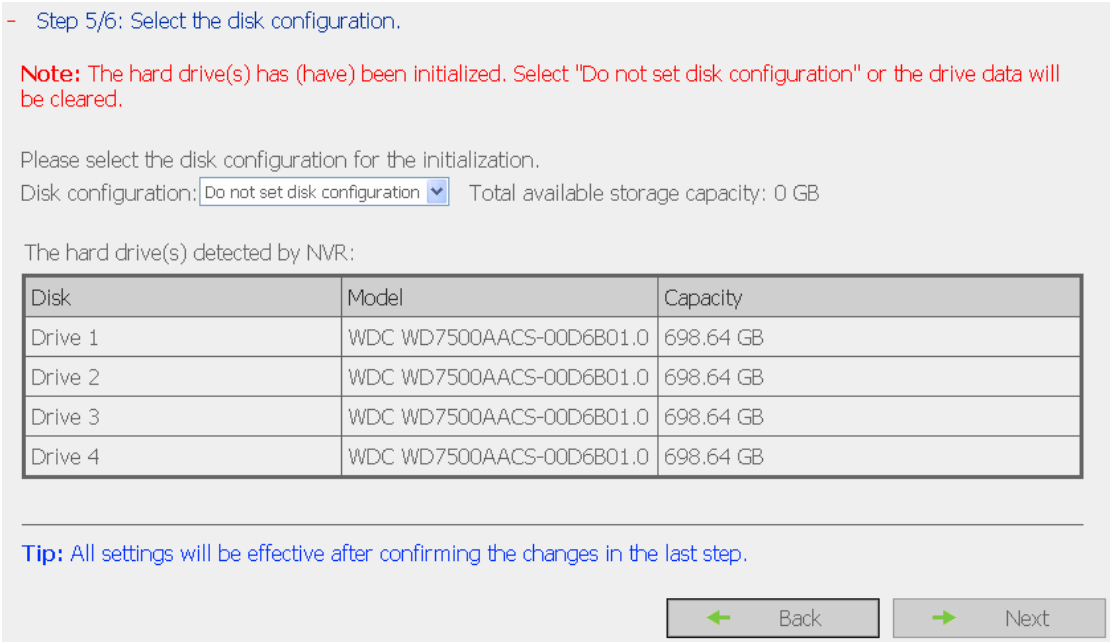
Step 3. Enter the date, time, and time zone of the server.


Step 3/6: Enter the date, time and time zone for this server.
Time Zone :
(GMT+08:00) Taipei
Date / Time:
2009/6/30
16
19
29
Synchronize with an Internet time server automatically
Server:
pool.ntp.org
Test
(Status: --)
Set the server time the same as your computer time.
Tip: This system can be used by the network cameras or other servers as an NTP server by default. To ensure that the date and time of the network cameras is synchronized with this server, please set up all the network cameras by entering the IP address of this server as their NTP server.
Back
Next

Step 4. Enter the IP address, subnet mask and default gateway of the server.


Step 4/6: Enter the IP address, subnet mask and default gateway for this server.
Obtain TCP/IP settings automatically via DHCP
Use the following settings
IP Address:
172 . 17 . 26 . 210
Subnet Mask:
255 . 255 . 254 . 0
Default Gateway:
172 . 17 . 26 . 1
Primary DNS Server
10 . 8 . 2 . 11
Secondary DNS Server
10 . 8 . 2 . 9
Note: To allow this server to use host names for NTP or SMTP servers, you must provide the IP address of the primary DNS server.
Back
Next

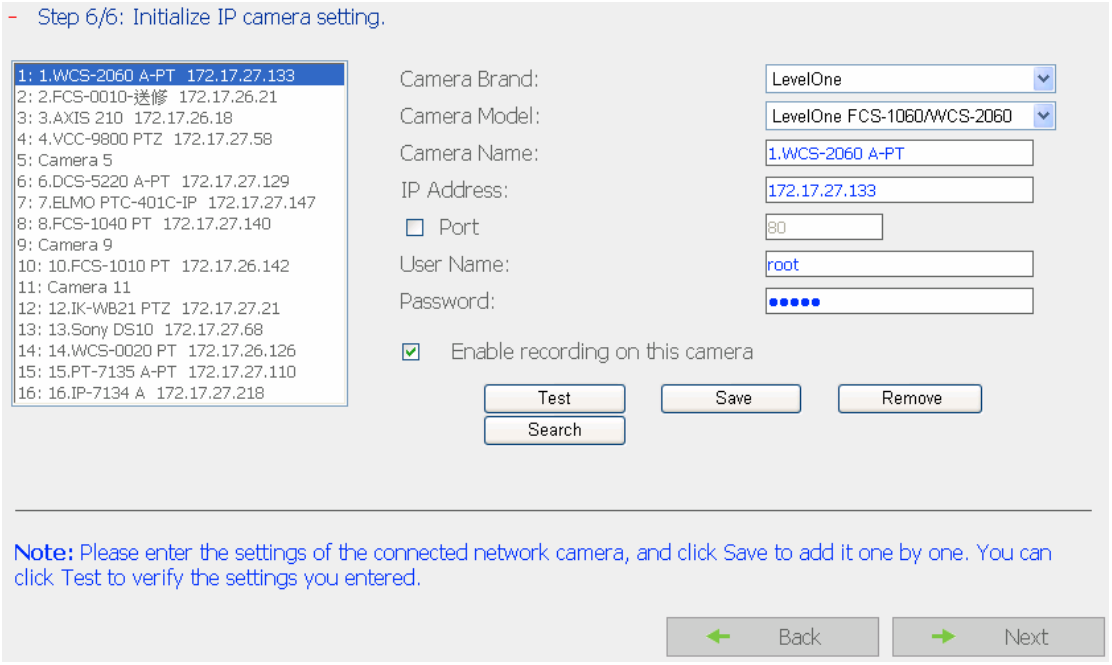
Step 5. Select the disk configuration. All the disk data will be cleared unless you select not to set the disk configuration.


- Step 5/6: Select the disk configuration.
Note: The hard drive(s) has (have) been initialized. Select "Do not set disk configuration" or the drive data will be cleared.
Please select the disk configuration for the initialization.
Disk configuration: Do not set disk configuration
Total available storage capacity: 0 GB
The hard drive(s) detected by NVR:
Disk
Model
Capacity
Drive 1
WDC WD7500AACS-00D6B01.0
698.64 GB
Drive 2
WDC WD7500AACS-00D6B01.0
698.64 GB
Drive 3
WDC WD7500AACS-00D6B01.0
698.64 GB
Drive 4
WDC WD7500AACS-00D6B01.0
698.64 GB
Tip: All settings will be effective after confirming the changes in the last step.
Back
Next

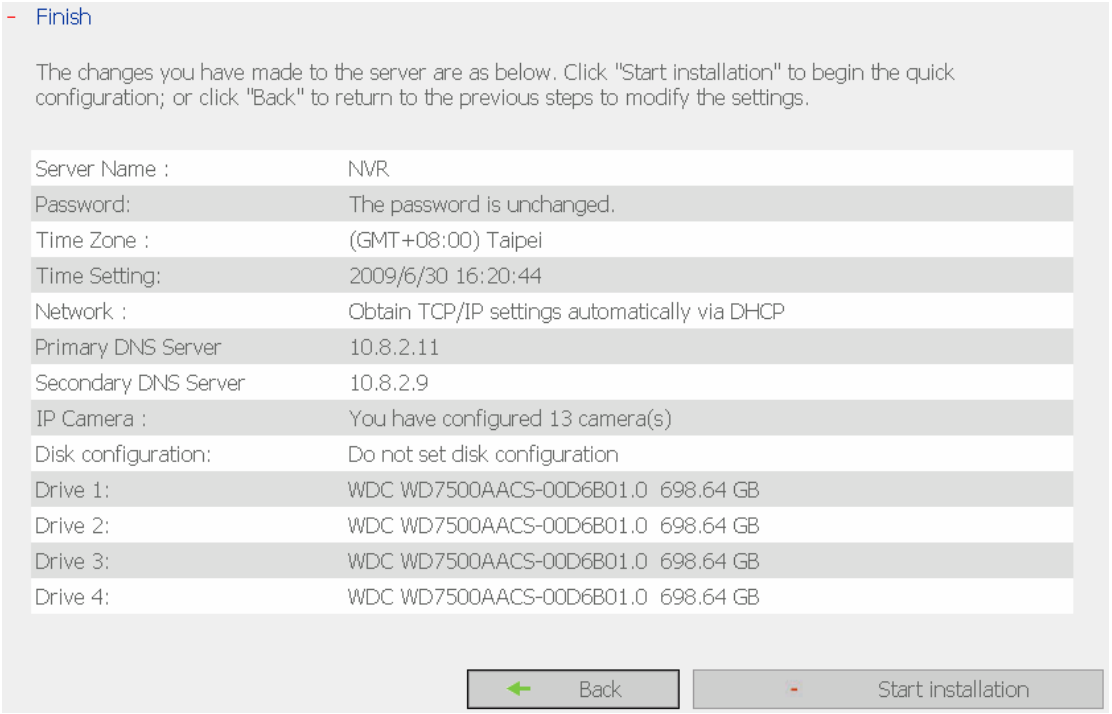
Step 6. Initialize the IP camera settings.

Select the camera model; enter the camera name and IP address of the camera, and the user name and password to login the camera. You can also enable or disable the recording on each channel, test the connection to the IP cameras and then click 'Save' to apply the changes.

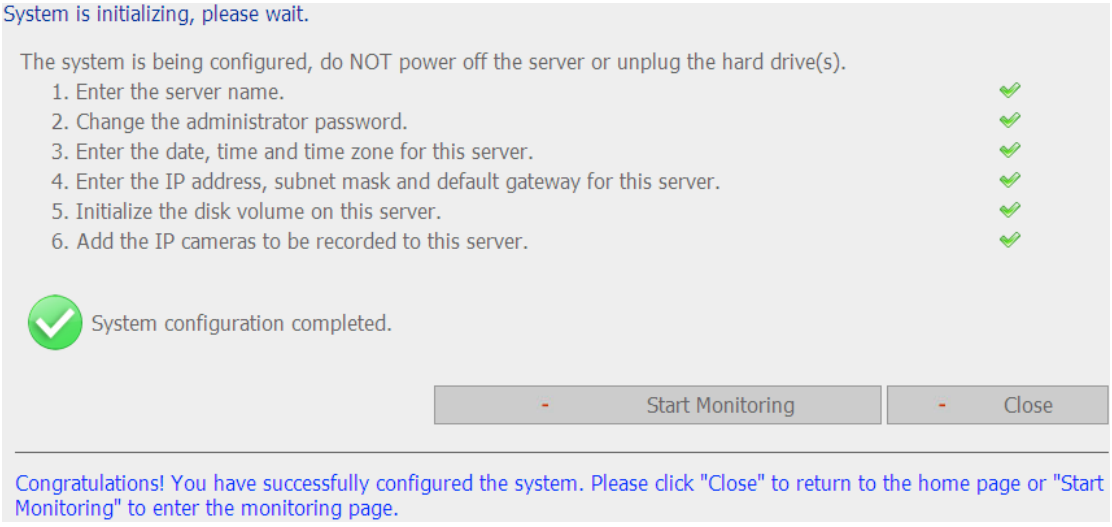
Click 'Search' to search for the IP cameras on the local network. Select a channel and click 'Add' to add the camera. By using the search function, the camera model and the IP address are filled in automatically. Click 'Close' to close the search results.



After completing the settings, click 'Start Installation' to apply the changes and initialize the system.


Finish
The changes you have made to the server are as below. Click "Start installation" to begin the quick configuration; or click "Back" to return to the previous steps to modify the settings.
Server Name : NVR
Password: The password is unchanged.
Time Zone : (GMT+08:00) Taipei
Time Setting: 2009/6/30 16:20:44
Network : Obtain TCP/IP settings automatically via DHCP
Primary DNS Server 10.8.2.11
Secondary DNS Server 10.8.2.9
IP Camera : You have configured 13 camera(s)
Disk configuration: Do not set disk configuration
Drive 1: WDC WD7500AACS-00D6B01.0 698.64 GB
Drive 2: WDC WD7500AACS-00D6B01.0 698.64 GB
Drive 3: WDC WD7500AACS-00D6B01.0 698.64 GB
Drive 4: WDC WD7500AACS-00D6B01.0 698.64 GB
Back
Start installation

The quick configuration is completed and you can start to use VioStor. Click 'Start Monitoring' to view the live video from the IP cameras or click 'Close' to return to the system administration home page.

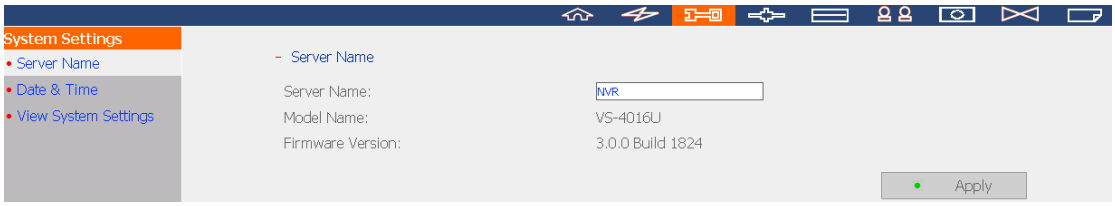

System is initializing, please wait.
The system is being configured, do NOT power off the server or unplug the hard drive(s).
1. Enter the server name.
2. Change the administrator password.
3. Enter the date, time and time zone for this server.
4. Enter the IP address, subnet mask and default gateway for this server.
5. Initialize the disk volume on this server.
6. Add the IP cameras to be recorded to this server.
System configuration completed.
Start Monitoring
Close
Congratulations! You have successfully configured the system. Please click "Close" to return to the home page or "Start Monitoring" to enter the monitoring page.

6.2 System Settings

You can configure the basic system settings including the server name, the date & time, and view the system settings.

6.2.1 Server Name

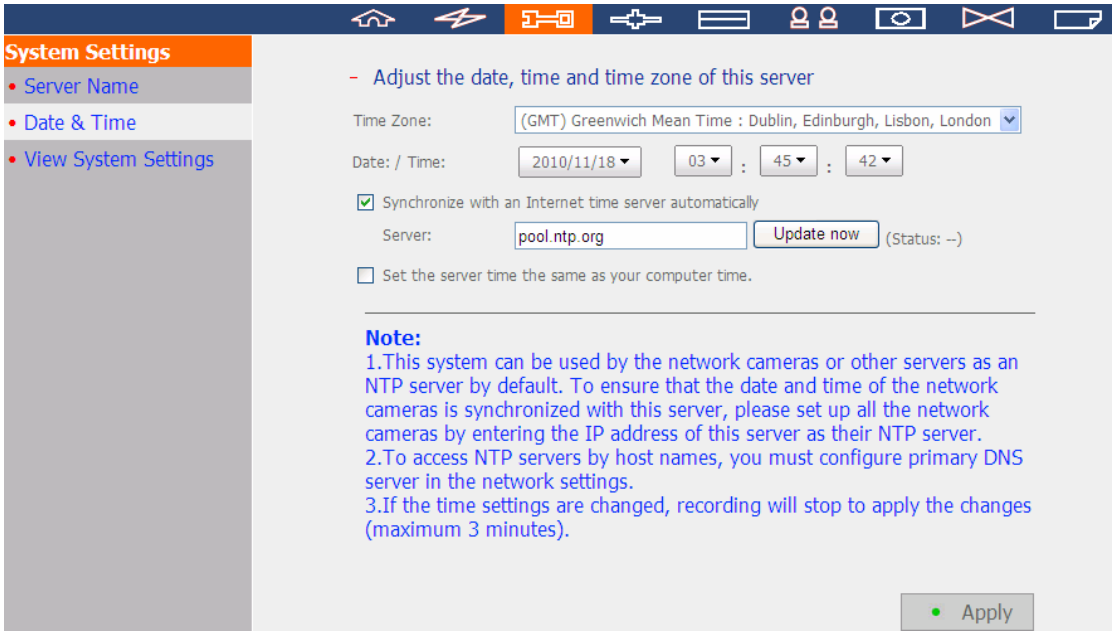
Enter the name of VioStor. The server name supports maximum 14 characters, which can be a combination of alphabets, numbers, and hyphen (-). It does not allow spaces ( ), pure numbers, or the following characters:
. ; : " < > * + = \ | ? , [ ] /



6.2.2 Date & Time

Set the date, time, and time zone according to your location. If the settings are incorrect, the following problems may occur:

- When playing the video files, the display time will be incorrect.
- The display time of the event log will be inconsistent with the actual time when the event was recorded.


System Settings
• Server Name
• Date & Time
• View System Settings
Adjust the date, time and time zone of this server
Time Zone:
(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London
Date: / Time:
2010/11/18
03
45
42
Synchronize with an Internet time server automatically
Server:
pool.ntp.org
Update now
(Status: --)
Set the server time the same as your computer time.
Note:
1.This system can be used by the network cameras or other servers as an NTP server by default. To ensure that the date and time of the network cameras is synchronized with this server, please set up all the network cameras by entering the IP address of this server as their NTP server.
2.To access NTP servers by host names, you must configure primary DNS server in the network settings.
3.If the time settings are changed, recording will stop to apply the changes (maximum 3 minutes).
Apply

Synchronize with an Internet time server automatically

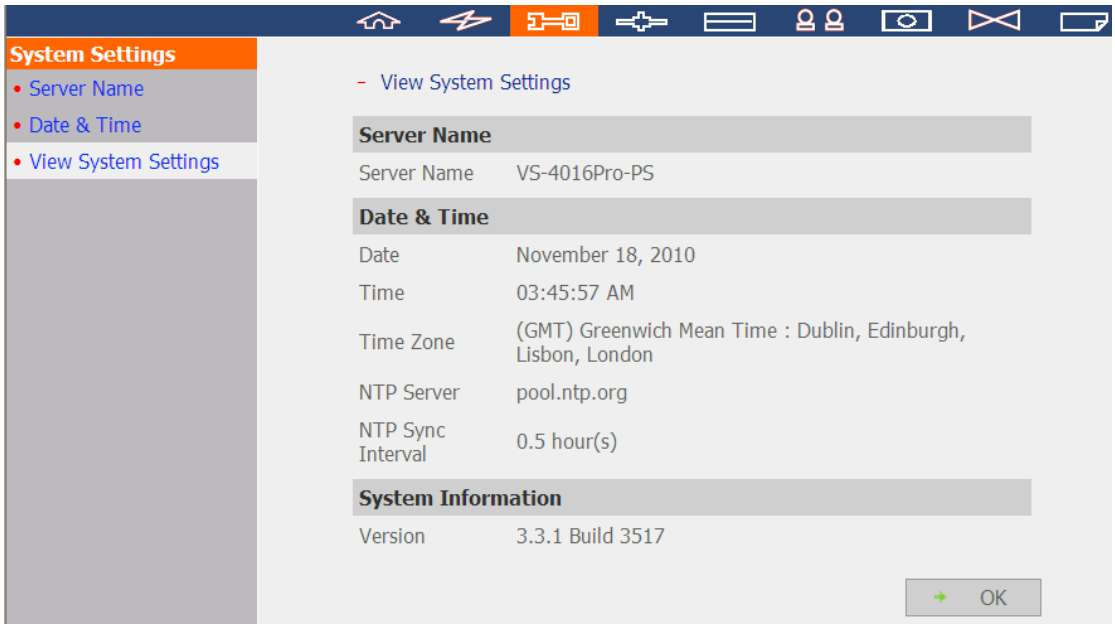
You can enable this option to update the date and time of the NVR automatically with an NTP (Network Time Protocol) server. Enter the IP address or the domain name of the NTP server, for example, time.nist.gov or time.windows.com. Then enter the time interval for adjusting the time.

The NVR can be configured as the NTP server for the IP cameras or other servers. To ensure the date and time of the IP cameras are synchronized with the NVR, enter the IP address of VioStor as the NTP server of the IP cameras.

Note: It may take several minutes to synchronize the time after you enable the NTP server feature.

6.2.3 View System Settings

You can view the system settings such as the server name on this page.



6.3 Network Settings

You can configure the WAN and LAN settings, DDNS service, file service, host access control, protocol management and view the network settings in this section.

6.3.1 TCP/IP Configuration

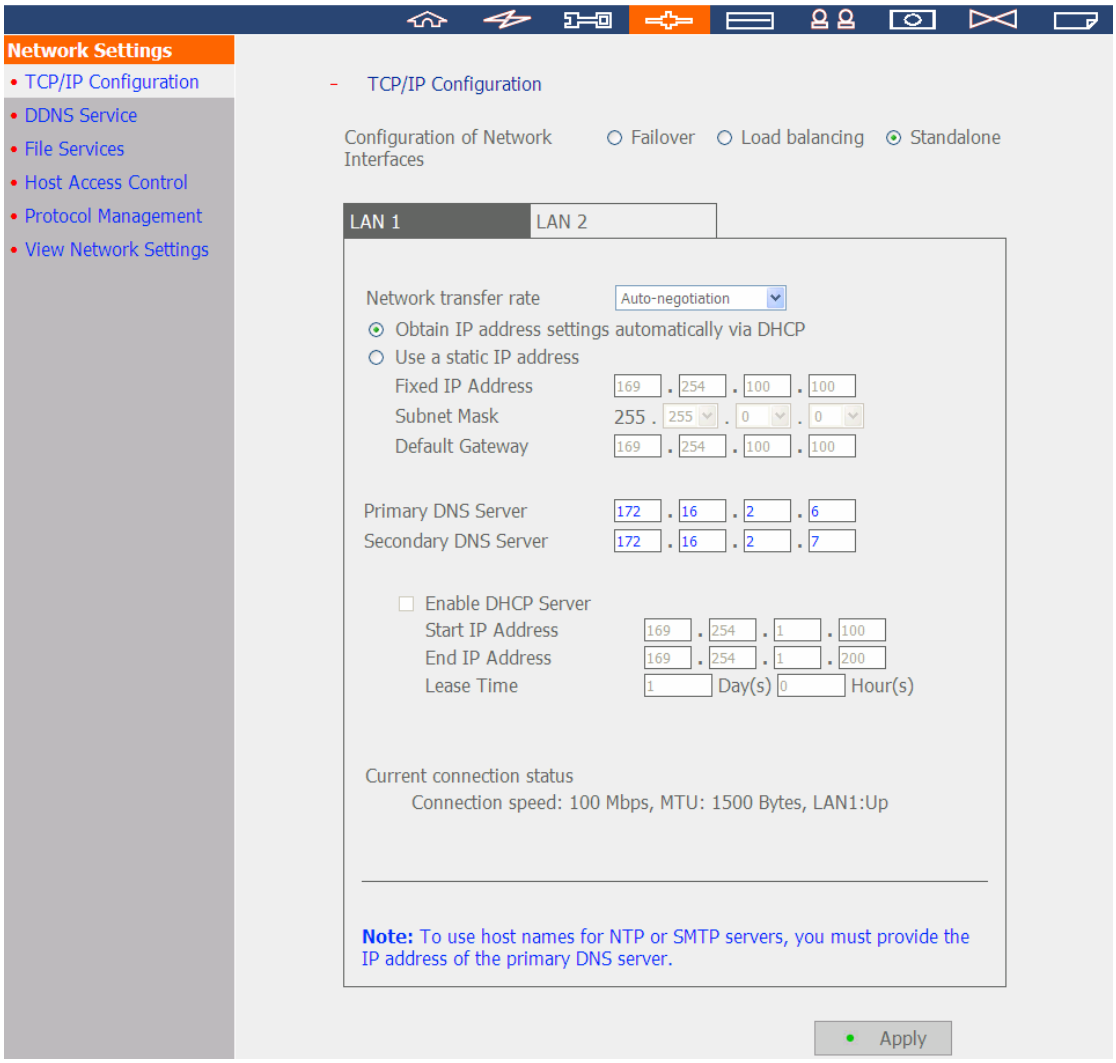
Select one of the following options to configure the TCP/IP settings of the NVR.

- **Obtain IP address settings automatically via DHCP**
  Select this option to allow the NVR to acquire an IP address on the local network automatically if a DHCP server is available.
- **Use static IP address**
  To assign a fixed IP to the NVR, enter the IP address, the subnet mask, and the default gateway.

Primary DNS Server: Enter the IP address of the primary DNS server that provides the DNS service for the NVR on the external network.
Secondary DNS Server: Enter the IP address of the secondary DNS server that provides the DNS service for the NVR on the external network.

Note: The Jumbo Frame setting is valid in Gigabit network environment only. All the network appliances connected must enable Jumbo Frame and use the same MTU value.

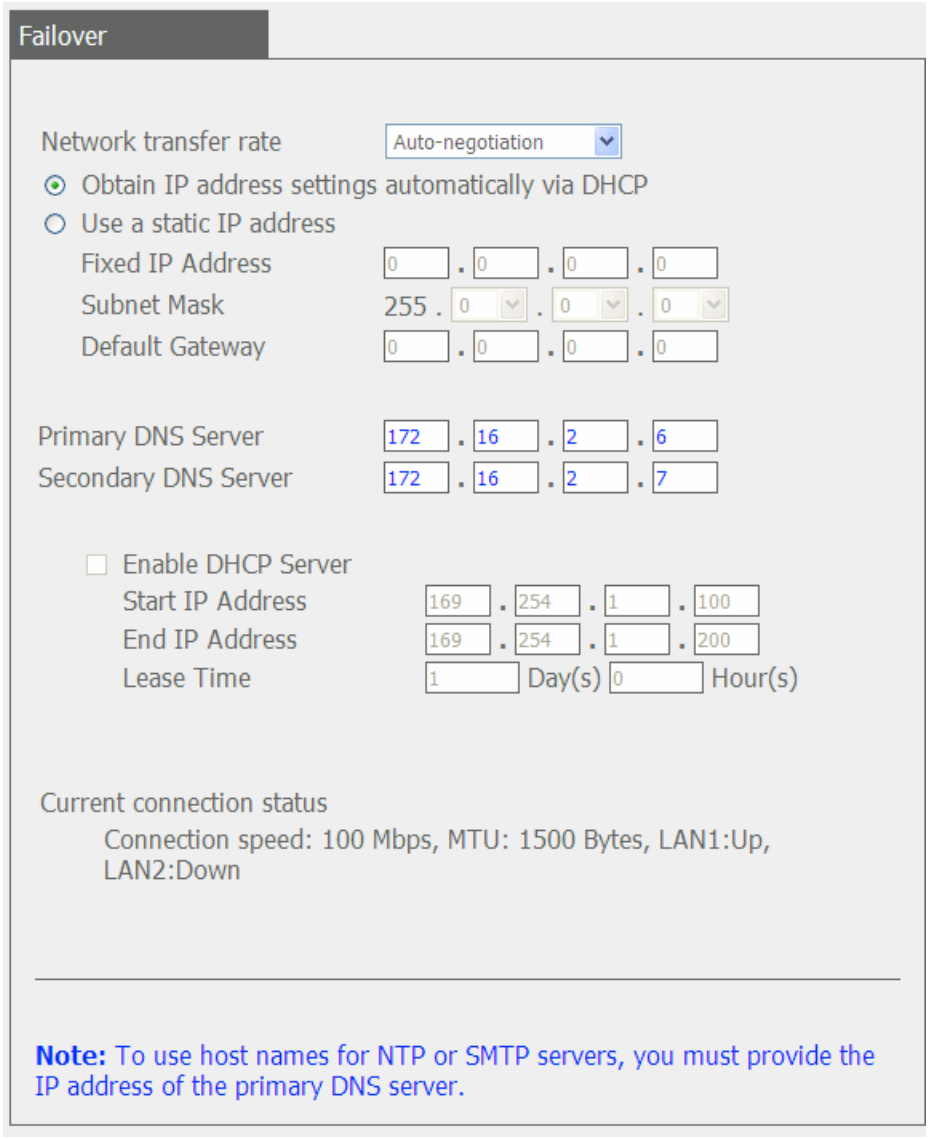
If your NVR supports two LAN ports, you can select to use failover, load balancing, or standalone settings. To use these features, make sure both LAN ports are connected to the network.



Configuration of Network Interfaces

- **Failover (Default settings for dual LAN NVR models)**

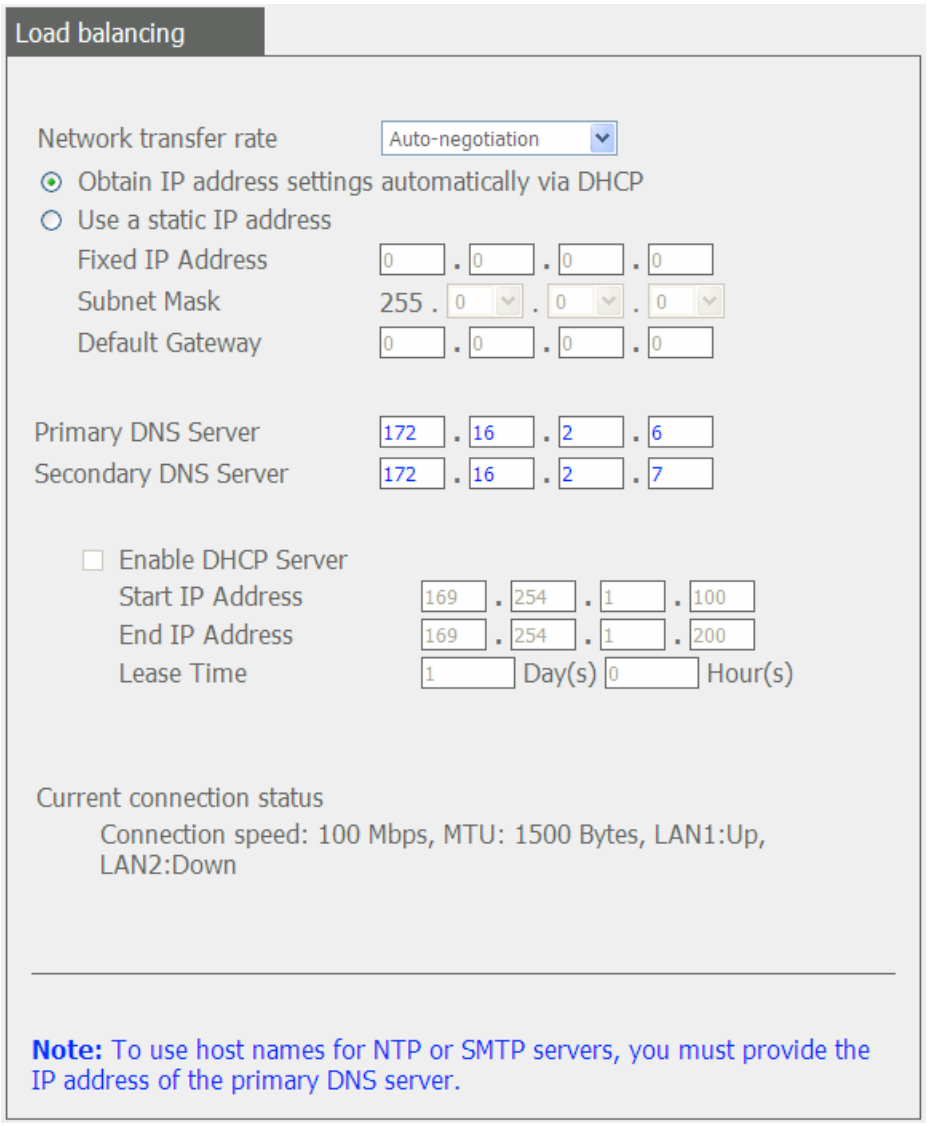
  Failover refers to the capability of switching over the network transfer port to the redundant port automatically when the primary one fails due to hardware or connection error to avoid network disconnection. When the primary network port resumes the connection, the network transfer will be switched over to that port automatically.


Failover
Network transfer rate
Auto-negotiation
Obtain IP address settings automatically via DHCP
Use a static IP address
Fixed IP Address
Subnet Mask
Default Gateway
Primary DNS Server
Secondary DNS Server
Enable DHCP Server
Start IP Address
End IP Address
Lease Time
Day(s)
Hour(s)
Current connection status
Connection speed: 100 Mbps, MTU: 1500 Bytes, LAN1:Up, LAN2:Down
Note: To use host names for NTP or SMTP servers, you must provide the IP address of the primary DNS server.

- **Load balancing**

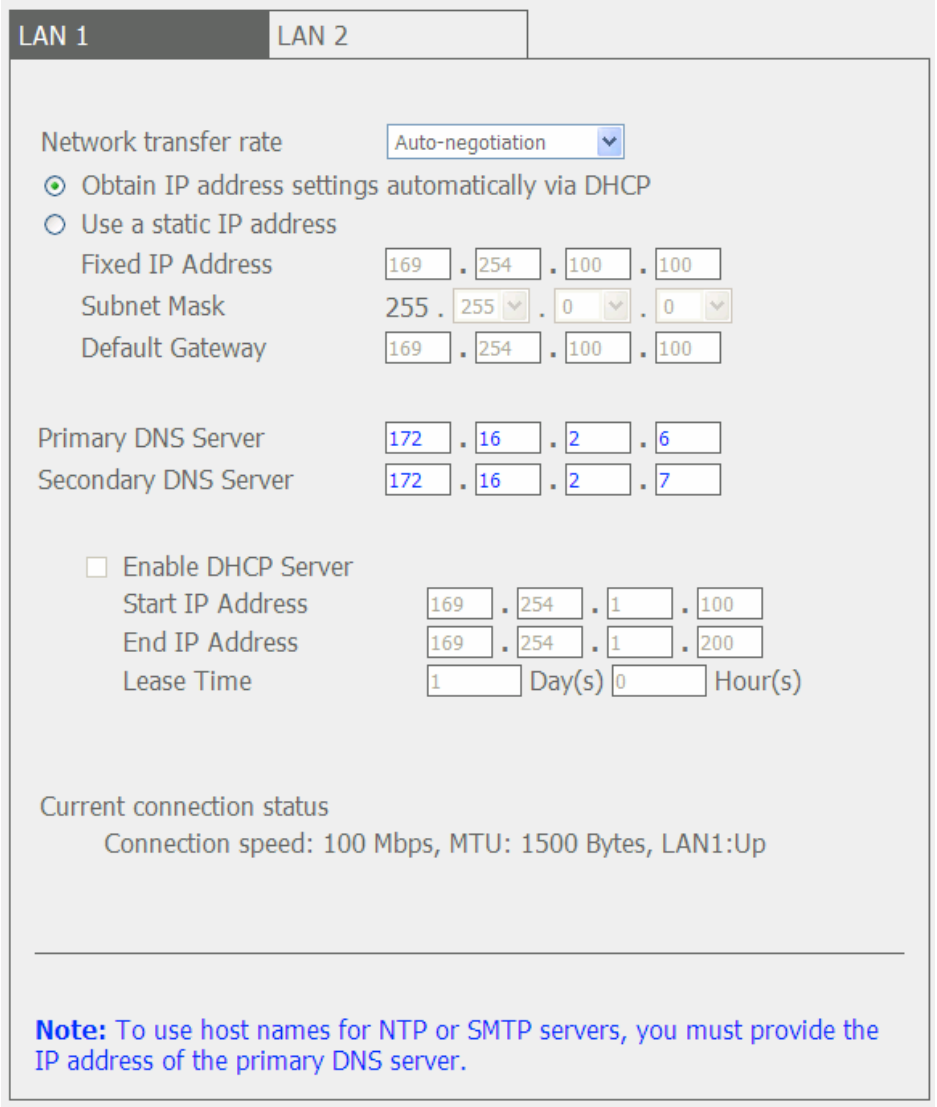
  Load balancing enables the network resources to spread between two or more network interfaces to optimize the network transfer and enhance the system performance. It operates on layer 3 protocol (IP, NCP IPX) only. Multicast/broadcast and other non-routable protocols such as NetBEUI can only be transferred via the main network port.

Note: To optimize the network transfer speed of VioStor in load balancing mode, please use a managed Ethernet switch and enable 802.3ad (or link aggregation) on the ports of the switch that the Giga LAN ports of VioStor are connected to.


Load balancing
Network transfer rate
Auto-negotiation
Obtain IP address settings automatically via DHCP
Use a static IP address
Fixed IP Address
Subnet Mask
Default Gateway
Primary DNS Server
Secondary DNS Server
Enable DHCP Server
Start IP Address
End IP Address
Lease Time
Day(s)
Hour(s)
Current connection status
Connection speed: 100 Mbps, MTU: 1500 Bytes, LAN1:Up, LAN2:Down
Note: To use host names for NTP or SMTP servers, you must provide the IP address of the primary DNS server.

- **Standalone**

  The standalone option allows you to assign different IP settings for each network port. VioStor can be accessed by different workgroups on two different subnets. When load balancing is enabled, failover does not work. You can only enable the DHCP server for the primary network port (LAN 1).


LAN 1
LAN 2
Network transfer rate
Auto-negotiation
Obtain IP address settings automatically via DHCP
Use a static IP address
Fixed IP Address
169 . 254 . 100 . 100
Subnet Mask
255 . 255 . 0 . 0
Default Gateway
169 . 254 . 100 . 100
Primary DNS Server
172 . 16 . 2 . 6
Secondary DNS Server
172 . 16 . 2 . 7
Enable DHCP Server
Start IP Address
169 . 254 . 1 . 100
End IP Address
169 . 254 . 1 . 200
Lease Time
1 Day(s) 0 Hour(s)
Current connection status
Connection speed: 100 Mbps, MTU: 1500 Bytes, LAN1:Up
Note: To use host names for NTP or SMTP servers, you must provide the IP address of the primary DNS server.

- **Network Transfer Rate**

  You can select auto-negotiation (default), 1000 Mbps, or 100 Mbps. It is recommended to use the default setting that the server will determine the network speed automatically.

- **Obtain IP address settings automatically via DHCP**

  If your network supports DHCP, VioStor will use the DHCP protocol to retrieve the IP address and the related information automatically.

- **Use static IP address**
  To assign a fixed IP to the NVR, enter the IP address, subnet mask, and default gateway.
- **Primary DNS Server**
  Enter the IP address of the primary DNS server that provides the DNS service for VioStor on the external network.
- **Secondary DNS Server**
  Enter the IP address of the secondary DNS server that provides the DNS service for VioStor on the external network.

Enable DHCP Server

If no DHCP server is available on the LAN where VioStor locates, you can enable VioStor as a DHCP server to allocate dynamic IP address to the DHCP clients on the LAN.

You can set the range of the IP addresses allocated by the DHCP server and the lease time. The lease time refers to the time that the IP address is leased to the clients by the DHCP server. When the time expires, the client has to acquire an IP address again.

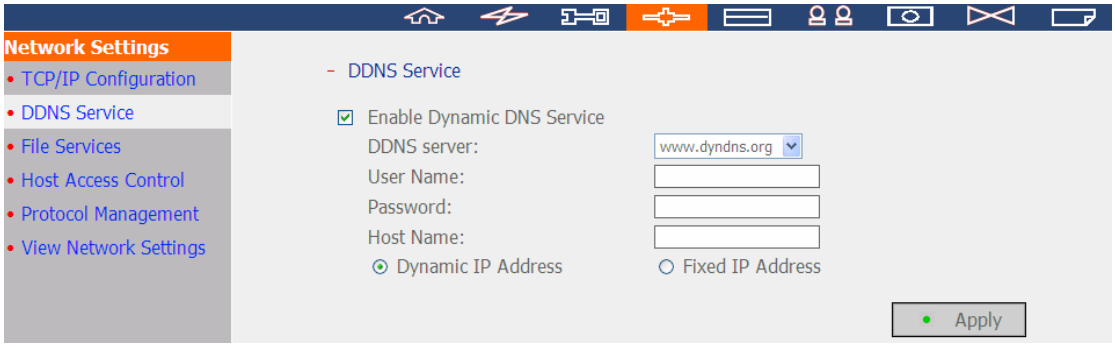
Note: If there is an existing DHCP server on the LAN, do not enable this function. Otherwise, there will be IP address allocation failure and network access error.

6.3.2 DDNS (Dynamic Domain Name) Service

The DDNS service enables the users to connect to VioStor by the domain name directly. There is no need to memorize the lengthy IP address of the server. To enable the DDNS service, you have to register a DDNS account from a DDNS provider. Please refer to Appendix A.

VioStor currently supports the DDNS service provided by:

1. DynDNS (http://www.dyndns.org/)
2. http://ods.org/
3. http://www.dhs.org/
4. http://www.dyns.cx/
5. http://www.3322.org/
6. http://www.no-ip.com/
7. http://ipcam.jp/



6.3.3 File Services

You can enable the SMB/CIFS file service, Web File Manager and FTP service to access the video files. These settings are enabled by default.

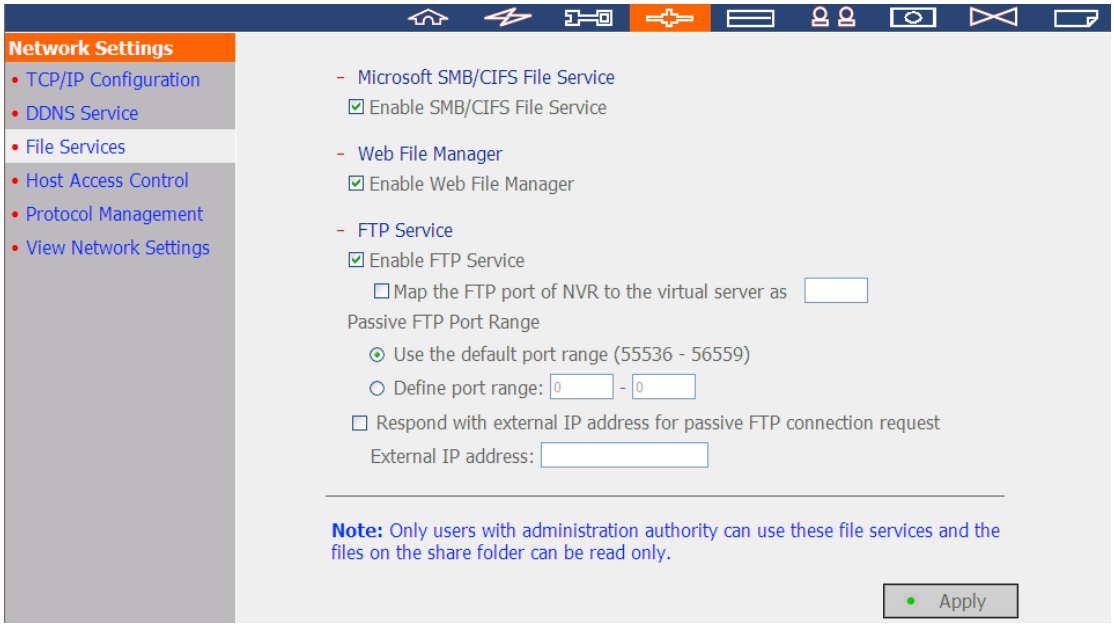
If your VioStor is installed behind the router, you may enable FTP port mapping to allow the users from the external network to access VioStor via FTP (please refer to Appendix B).

Passive FTP Port Range

You can use the default port range (55536–56559) or define a port range larger than 1023. When using this function, make sure you have opened the configured the port range on your router or firewall.

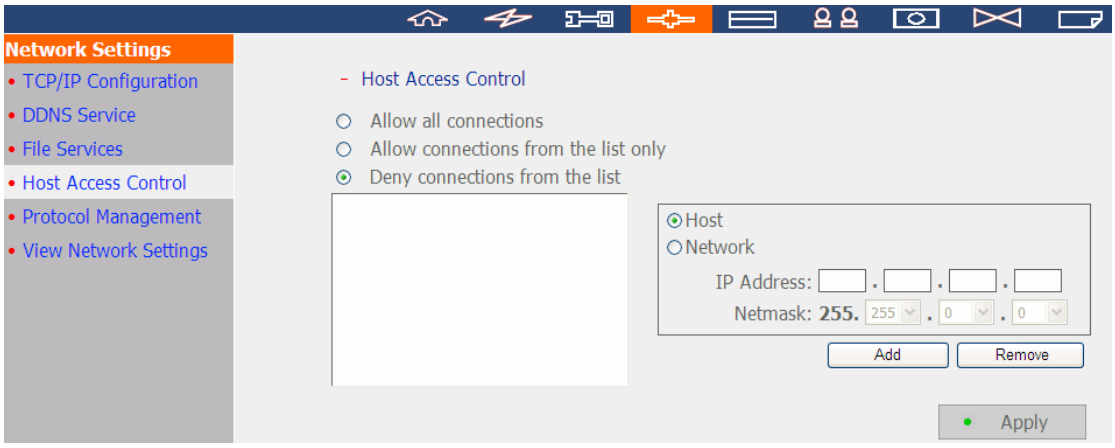
Respond with external IP address for passive FTP connection request

When passive FTP connection is in use and VioStor is configured behind a router, you can enable this function to allow connection to the NVR over WAN. By enabling this function, the FTP service replies the manually specified IP address or automatically detects the external IP address so that the remote computer can connect to VioStor successfully.


Network Settings
• TCP/IP Configuration
• DDNS Service
• File Services
• Host Access Control
• Protocol Management
• View Network Settings
- Microsoft SMB/CIFS File Service
Enable SMB/CIFS File Service
- Web File Manager
Enable Web File Manager
- FTP Service
Enable FTP Service
Map the FTP port of NVR to the virtual server as
Passive FTP Port Range
Use the default port range (55536 - 56559)
Define port range:
Respond with external IP address for passive FTP connection request
External IP address:
Note: Only users with administration authority can use these file services and the files on the share folder can be read only.
Apply

6.3.4 Host Access Control

Specify the connections to be allowed or denied to access VioStor. Choose one of the following options to restrict the access from a network or an IP address (host) to the server:



1. **Allow all connections (Default setting)**

   Allow the connection from all the hosts to the server.

2. **Allow connections from the list only**

   Allow the connection from the hosts specified on the list only.

   Note: When this function is enabled, you can only use PC that the IP address is listed on the connection list to connect or find VioStor. The IP address not included in the list will not be able to detect VioStor not listed in allowed connections.

3. **Deny connections from the list**

   Deny the connection from the hosts specified on the list.

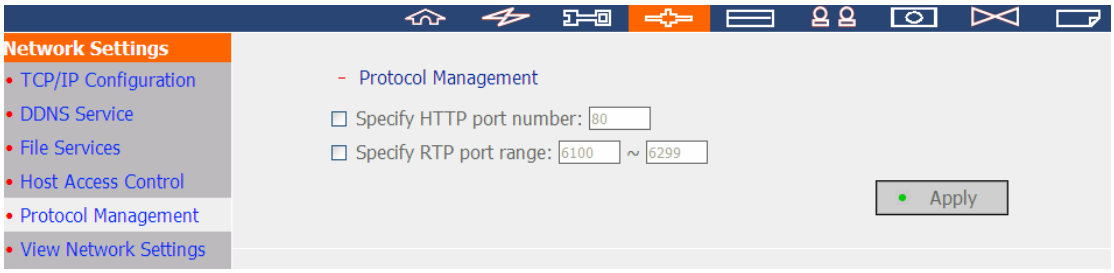
   Note: Make sure your PC is added to the allowed list in order to connect to the NVR. Otherwise, your PC will always be disconnected from the NVR.

6.3.5 Protocol Management

To assign a particular port to access VioStor by the web browser, enable the option 'Specify HTTP port number' and enter the port number. The default setting is 80.

RTP (Real-time Transfer Protocol) is a standardized packet format for delivering real-time audio and video data of the IP cameras over the Internet. The real-time data transfer is monitored and controlled by RTP (also RTCP). The default setting is 6100–6299. If your IP cameras use different RTP ports, enable 'Specify RTP port range' and enter the port numbers.

Note: Make sure you have opened the ports configured on the router or firewall to ensure normal monitoring and recording.



6.3.6 View Network Settings

You can view the current network settings and the status of VioStor in this section.

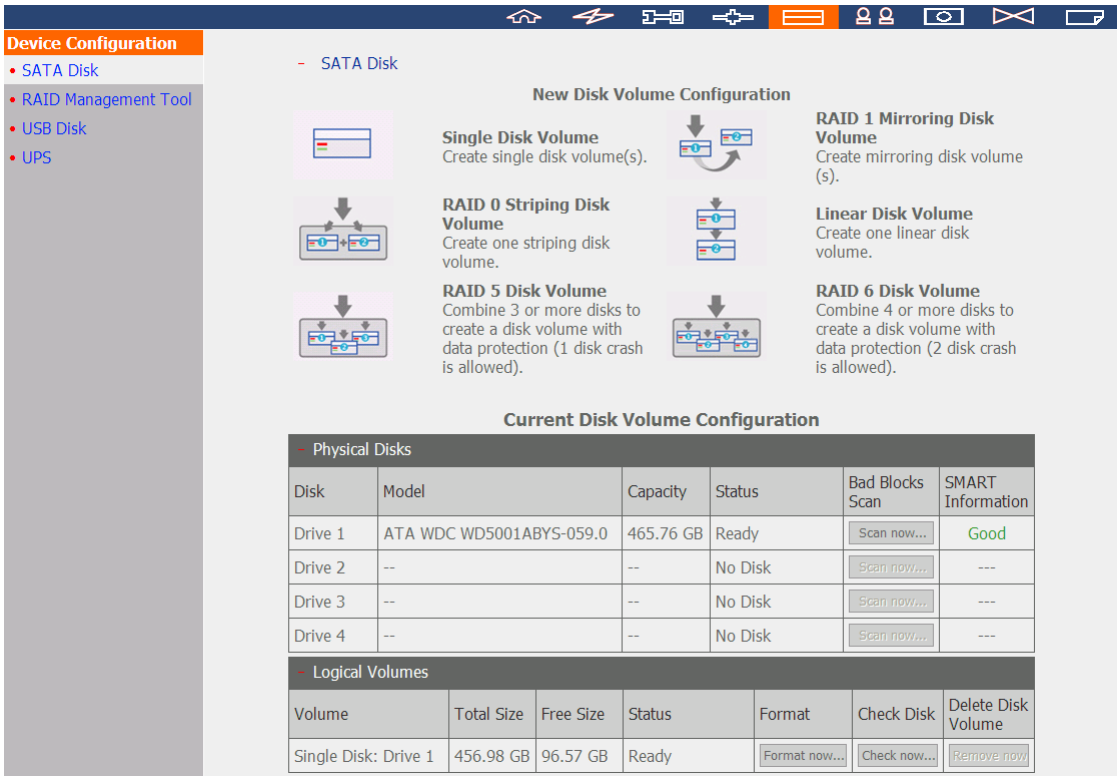
6.4 Device Configuration

You can configure the SATA disk, RAID management tool, USB disk, and the UPS settings in this section.

6.4.1 SATA Disk

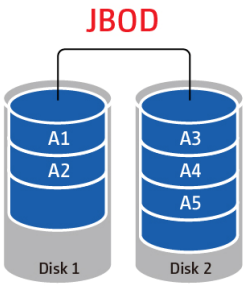
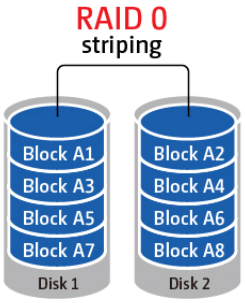
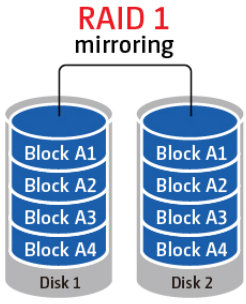
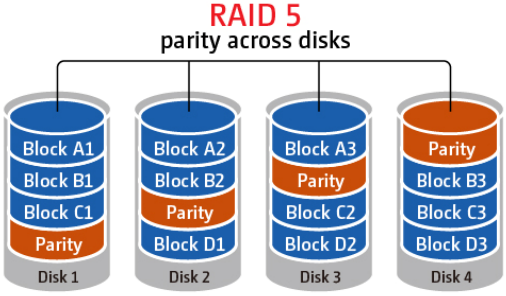
This page shows the model, size and current status of the hard disk drive(s) installed on VioStor. You can format the HDD and check the status, and scan the bad blocks. When the HDD are formatted, VioStor will create the following default share folders:

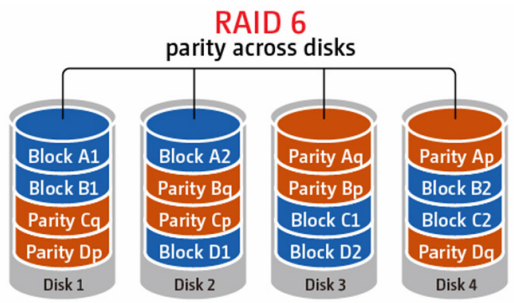
- record_nvr: The folder to where the regular recording files are saved.
- record_nvr_alarm: The folder to where the alarm recording files are saved.


Device Configuration
SATA Disk
RAID Management Tool
USB Disk
UPS
SATA Disk
New Disk Volume Configuration
Single Disk Volume
Create single disk volume(s).
RAID 1 Mirroring Disk Volume
Create mirroring disk volume (s).
RAID 0 Striping Disk Volume
Create one striping disk volume.
Linear Disk Volume
Create one linear disk volume.
RAID 5 Disk Volume
Combine 3 or more disks to create a disk volume with data protection (1 disk crash is allowed).
RAID 6 Disk Volume
Combine 4 or more disks to create a disk volume with data protection (2 disk crash is allowed).
Current Disk Volume Configuration
Physical Disks
Disk | Model | Capacity | Status | Bad Blocks Scan | SMART Information
Drive 1 | ATA WDC WD5001ABYS-059.0 | 465.76 GB | Ready | Scan now... | Good
Drive 2 | -- | -- | No Disk | Scan now... | ---
Drive 3 | -- | -- | No Disk | Scan now... | ---
Drive 4 | -- | -- | No Disk | Scan now... | ---
Logical Volumes
Volume | Total Size | Free Size | Status | Format | Check Disk | Delete Disk Volume
Single Disk: Drive 1 | 456.98 GB | 96.57 GB | Ready | Format now... | Check now... | Remove now

Click the icons on the 'SATA Disk' page to format the hard disk drive(s).

Disk Configuration	Applied NVR Models
Single disk volume	All models
RAID 1, JBOD (just a bunch of disks)	2-bay models or above
RAID 5, RAID 6, RAID 5+hot spare	4-bay models or above
RAID 6+hot spare	5-bay models or above

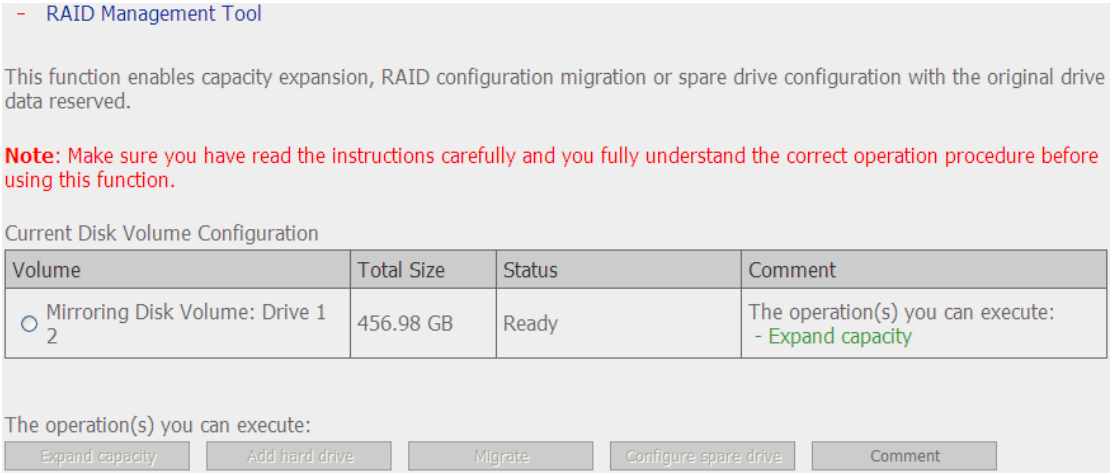
Single Disk Volume Each hard disk drive is used as a standalone disk. If a disk is damaged, all the data will be lost.	
JBOD (Just a bunch of disks) JBOD is a collection of hard disk drives that does not offer any RAID protection. The data are written to the physical disks sequentially. The total storage capacity equals to the sum of the capacity of all the member drives.	
RAID 0 Striping Disk Volume RAID 0 (striping disk) combines 2 or more hard disk drives into one larger volume. The data is written to the hard disk drives without any parity information and no redundancy is offered. The total storage capacity equals to the sum of the capacity of all the member drives.	
RAID 1 Mirroring Disk Volume RAID 1 duplicates the data between two hard disk drives to provide disk mirroring. To create a RAID 1 array, a minimum of 2 hard drives are required. The disk capacity equals (size of smallest hard drive) * (number of hard drives) / 2.	
RAID 5 Disk Volume The data are striped across all the drives in a RAID 5 array. The parity information is distributed and stored across each drive. If a member drive fails, the array enters degraded mode. After installing a new drive to replace the failed one, the data can be rebuilt	

from other member drives that contain the parity information. To create a RAID 5 disk volume, a minimum of 3 hard disks are required. The storage capacity of a RAID 5 array equals (N-1) * (size of smallest hard drive). N is the total number of hard drive members in the array.	
RAID 6 Disk Volume The data are striped across all the drives in a RAID 6 array. RAID 6 differs from RAID 5 that a second set of parity information is stored across the member drives in the array. It tolerates failure of two member drives. To create a RAID 6 disk volume, a minimum of 4 hard disks are required. The storage capacity of a RAID 6 array equals (N-2) * (size of smallest hard drive). N is the total number of hard drive members in the array.	

6.4.2 RAID Management Tool

*This function is not supported by the VS-101, VS-201, NVR-104.

The RAID management tool allows you to carry out capacity expansion, RAID migration, or spare drive configuration with the original drive data reserved.


RAID Management Tool
This function enables capacity expansion, RAID configuration migration or spare drive configuration with the original drive data reserved.
Note: Make sure you have read the instructions carefully and you fully understand the correct operation procedure before using this function.
Current Disk Volume Configuration
Volume
Total Size
Status
Comment
Mirroring Disk Volume: Drive 1 2
456.98 GB
Ready
The operation(s) you can execute:
- Expand capacity
The operation(s) you can execute:
Expand capacity
Add hard drive
Migrate
Configure spare drive
Comment

- Expand capacity
  This function enables capacity expansion of a RAID configuration by replacing the member drives one by one. This option is supported by RAID 1, RAID 5, or RAID 6 configurations.

- Add hard drive
  This function enables adding new drive member to a RAID configuration. It is supported by RAID 5 configuration.

- Migrate
  This function enables a drive configuration to be migrated to a different RAID configuration. You can use this feature to:
  - Migrate a single drive to RAID 1, 5, or 6
  - Migrate a RAID 1 configuration to RAID 5 or 6
  - Migrate a RAID 5 configuration to RAID 6

- Configure spare drive

  This function enables adding or removing a spare drive from a RAID 5 configuration. The options available are:

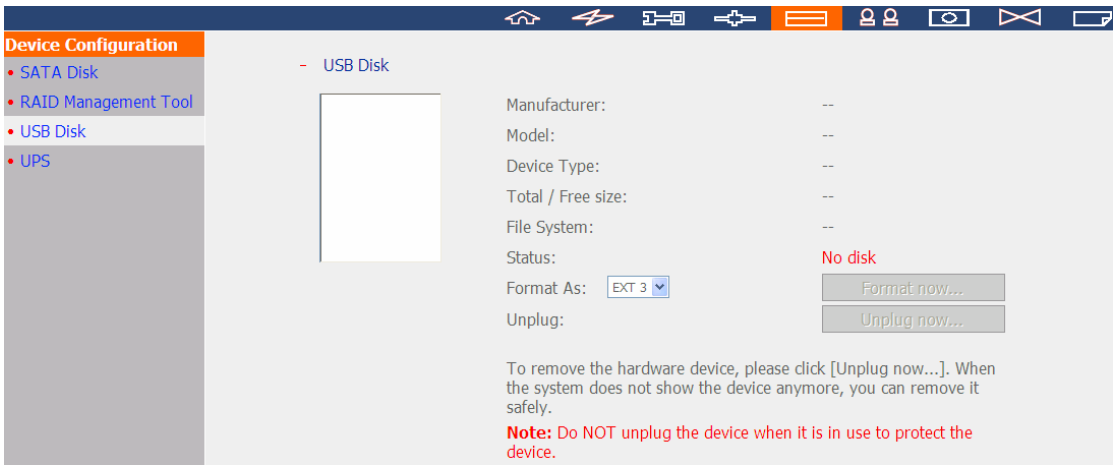
  - Add a spare drive to a RAID 5 configuration
  - Remove a spare drive from a RAID 5 configuration

For detailed operation instructions, click ‘Comment’ on the management interface.

6.4.3 USB Disk

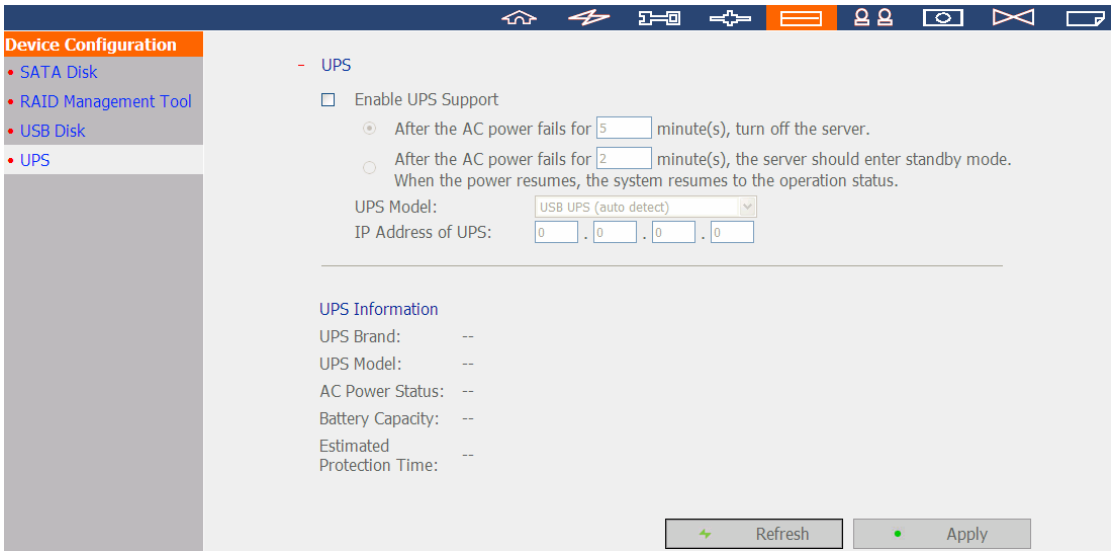
The NVR supports data backup to the external USB storage devices. Connect the USB storage device to the USB port of the NVR, when the device is successfully detected, the details will be shown.

* The VS-101/VS-201/NVR-104 do not support FAT32 and NTFS.


Device Configuration
• SATA Disk
• RAID Management Tool
• USB Disk
• UPS
USB Disk
Manufacturer: --
Model: --
Device Type: --
Total / Free size: --
File System: --
Status: No disk
Format As: EXT 3
Format now...
Unplug:
Unplug now...
To remove the hardware device, please click [Unplug now...]. When the system does not show the device anymore, you can remove it safely.
Note: Do NOT unplug the device when it is in use to protect the device.

6.4.4 UPS

You can connect a UPS (uninterruptible power supply) to the NVR and enable the UPS support. When an expected power outage occurs, the UPS is able to supply the power to the NVR continuously. You can also configure the settings to turn off the NVR after the AC power fails. If the power of the UPS is insufficient to last for the time specified, the NVR will shut down immediately for optimized server protection.


Device Configuration
• SATA Disk
• RAID Management Tool
• USB Disk
• UPS
UPS
Enable UPS Support
After the AC power fails for 5 minute(s), turn off the server.
After the AC power fails for 2 minute(s), the server should enter standby mode.
When the power resumes, the system resumes to the operation status.
UPS Model: USB UPS (auto detect)
IP Address of UPS: 0 . 0 . 0 . 0
UPS Information
UPS Brand: --
UPS Model: --
AC Power Status: --
Battery Capacity: --
Estimated Protection Time: --
Refresh
Apply

* It is recommended to connect the UPS to one of the USB ports on the rear side of the NVR.

- **Enable UPS Support**

  Check this option to enable the UPS support. Enter the time the NVR should wait before shutting down after the AC power fails. In general, the UPS can supply the power for 5-10 minutes when AC power fails depending on the maximum load and the number of connected devices.

- **UPS Model**

  Select the UPS model on the list. If your UPS is not available on the list, please contact the distributor or QNAP technical support.

- **IP Address of UPS**

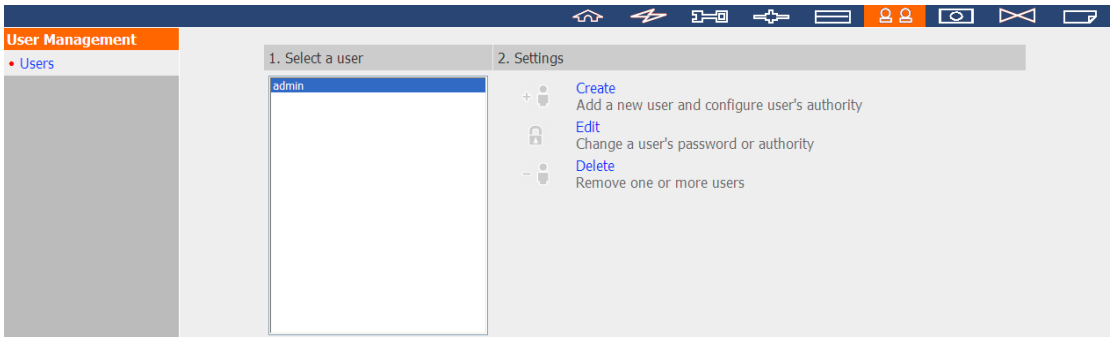
  If you select to use 'APC UPS with SNMP Management', enter the IP address of the UPS.

  Note: It is recommended to use APC Smart-UPS 700+ APC Network Management Card.

6.5 User Management

The NVR supports secure user access right management. A user can be defined as an administrator, a system manager, or a general user and given different rights of monitoring, playback, and system administration.

Note: The NVR supports up to 32 users (including the system default users).



The NVR supports 3 types of users:

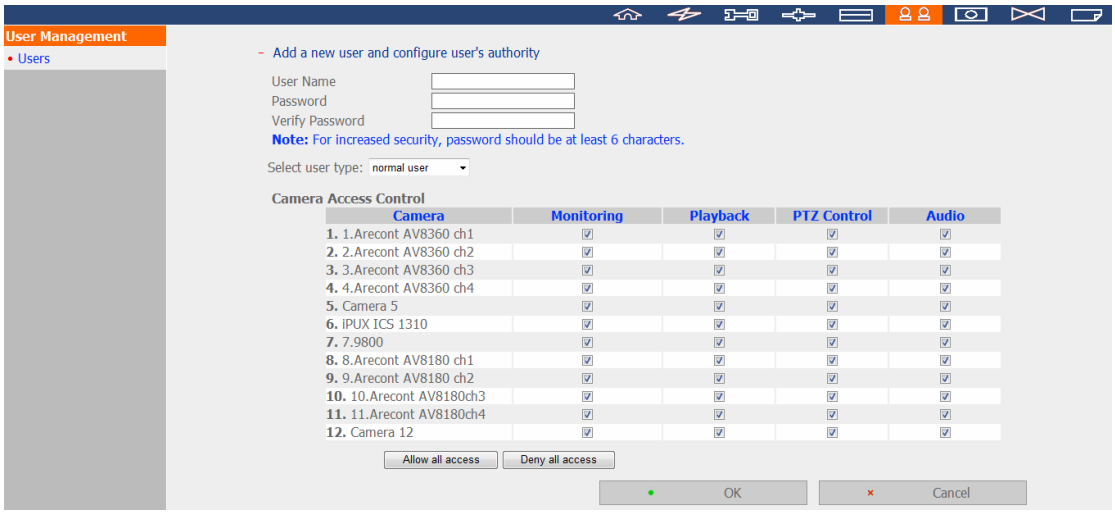
1. administrator
   The system default administrator accounts are 'admin' and 'supervisor' (default password: **admin**). Both of them have the rights of system administration, monitoring, and playback. The administrators cannot be deleted. They have the rights to create and delete new administrators, system managers, and general users, and change their passwords. Other newly created 'administrators' have the rights of system administration, monitoring, and playback but some rights are different from 'admin' and 'supervisor'. Please refer to Chapter 6.5.4 for more details.

2. system manager
   The default system manager account is 'sysmgr' (default password: **admin**). This account has the right of system administration and cannot be deleted. 'sysmgr' can create and delete other system manager and general user accounts, and assign monitoring, playback, and administration rights to them. Other newly created system managers will also have the administration right but some rights are different from 'sysmgr'. Please refer to Chapter 6.5.4 for more details.

3. user

   The general users have only the rights of monitoring and video playback. They have no administration authority. Please refer to Chapter 6.5.4 for more details.

6.5.1 Create user



- **User Name**

  The user name must be 1 to 32 characters in length. It supports alphabets (A-Z), numbers (0-9), and underscore (_). It is case-insensitive and supports double-byte characters, such as Chinese, Japanese, and Korean but cannot be a pure number or contain the following characters:

  " / \ [ ] : ; | = , + * ? < > ` '

- **Password**

  The password is case-sensitive and supports maximum 16 characters. It is recommended to use a password of at least 6 characters.

- **Select user type**

  Define the user as an administrator, system manager, or general user.

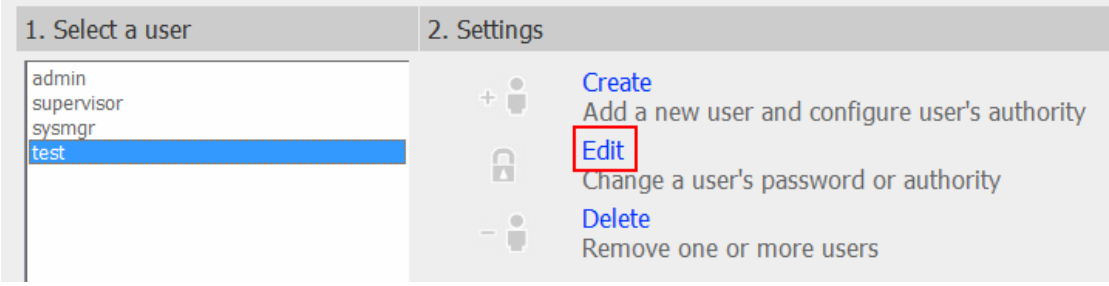
- **Camera Access Control**

  Assign the rights of monitoring (video/audio), playback, and PTZ control to the user.

Note: Please refer to Chapter 6.5.4 for further information of the user access rights.

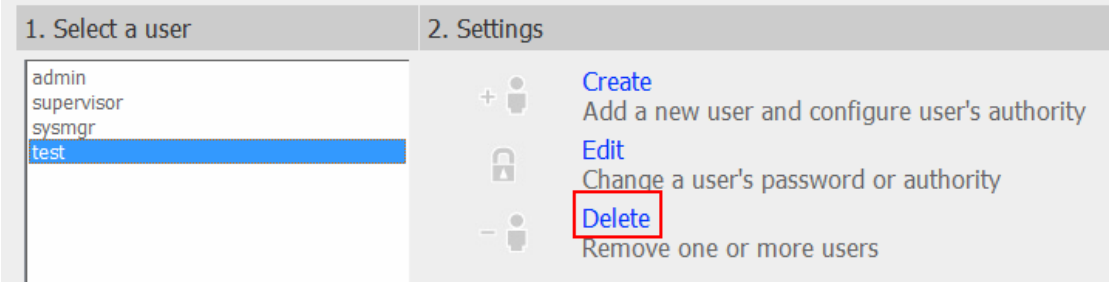
6.5.2 Edit User

Select a user on the list and click 'Edit'. You can change the password; assign the rights of system administration and camera access to the user. However, the user name cannot be changed.



6.5.3 Delete User

To delete a user, select the user on the list and click 'Delete'. Click 'OK' to confirm.



Note: The system administrator (admin, supervisor, sysmgr) cannot be deleted.

6.5.4 User Access Rights Comparison

VioStor NVR supports three types of users including system administrator, system manager, and general user. The default system administrators are 'admin' and 'supervisor' who cannot change one another's password, user type, and access rights to the IP cameras.

Note 1: The user can delete his/her account

Note 2: The user can change his/her password

		administrator			**system manager**		**user**
	Rights	**admin**	**supervisor**	**Other administrators**	**sysmgr**	**Other system managers**	**User**
1.	Create new 'admin' account	Default	Default	No	No	No	No
2.	Create new 'supervisor' account	Default	Default	No	No	No	No
3.	Create new administrator accounts	Yes	Yes	Yes	No	No	No
4.	Delete other administrator accounts	Yes	Yes	No (Note 1)	No	No	No
5.	Change the password of 'admin'	Yes	No	No	No	No	No
6.	Change the password of 'supervisor'	No	Yes	No	No	No	No
7.	Change the password of other administrators	Yes	Yes	No (Note 2)	No	No	No
8.	Change the user type of admin	Default	No	No	No	No	No
9.	Change the user type of supervisor	No	Default	No	No	No	No
10.	Change the user type of other administrators	Yes	Yes	Default	No	No	No
11.	Change the camera access control of admin	Default	No	No	No	No	No

		administrator			system manager		user
	Rights	**admin**	**supervisor**	**Other administrators**	**sysmgr**	**Other system managers**	**User**
12.	Change the camera access control of supervisor	No	Yes	No	No	No	No
13.	Change the camera access control of other administrators	No	No	Yes	No	No	No
14.	Create sysmgr	No	No	No	Default	No	No
15.	Create other system manager accounts	Yes	Yes	Yes	Yes	Yes	No
16.	Delete sysmgr	No	No	No	No	No	No
17.	Delete other system manager accounts	Yes	Yes	Yes	Yes	No (Note 1)	No
18.	Change the password of sysmgr	Yes	Yes	Yes	No (Note 2)	No	No
19.	Change the password of other system managers	Yes	Yes	Yes	Yes	No (Note 2)	No
20.	Change the user type of sysmgr	No	No	No	Default	No	No
21.	Change the user type of other system managers	Yes	Yes	Yes	Yes	No	No
22.	Change the camera access control of sysmgr	No	No	No	No	No	No
23.	Change the camera access control of other system managers	No	No	No	No	No	No
24.	Create new users	Yes	Yes	Yes	Yes	Yes	No
25.	Delete users	Yes	Yes	Yes	Yes	Yes	No
26.	Change the user password	Yes	Yes	Yes	Yes	No	No

		administrator			system manager		user
	Rights	**admin**	**supervisor**	**Other administrators**	**sysmgr**	**Other system managers**	**User**
27.	Change the user type of normal users	Yes	Yes	Yes	Yes	No	No
28.	Change the camera access control of normal users	Yes	Yes	Yes	Yes	Yes	No
29.	System administration	Yes	Yes	Yes	Yes	Yes	No
30.	Monitoring	Yes	Yes	Yes	No	No	Default
31.	Playback	Yes	Yes	Yes	No	No	Default
32.	Open data encryption password	Yes	Yes	No	No	No	No

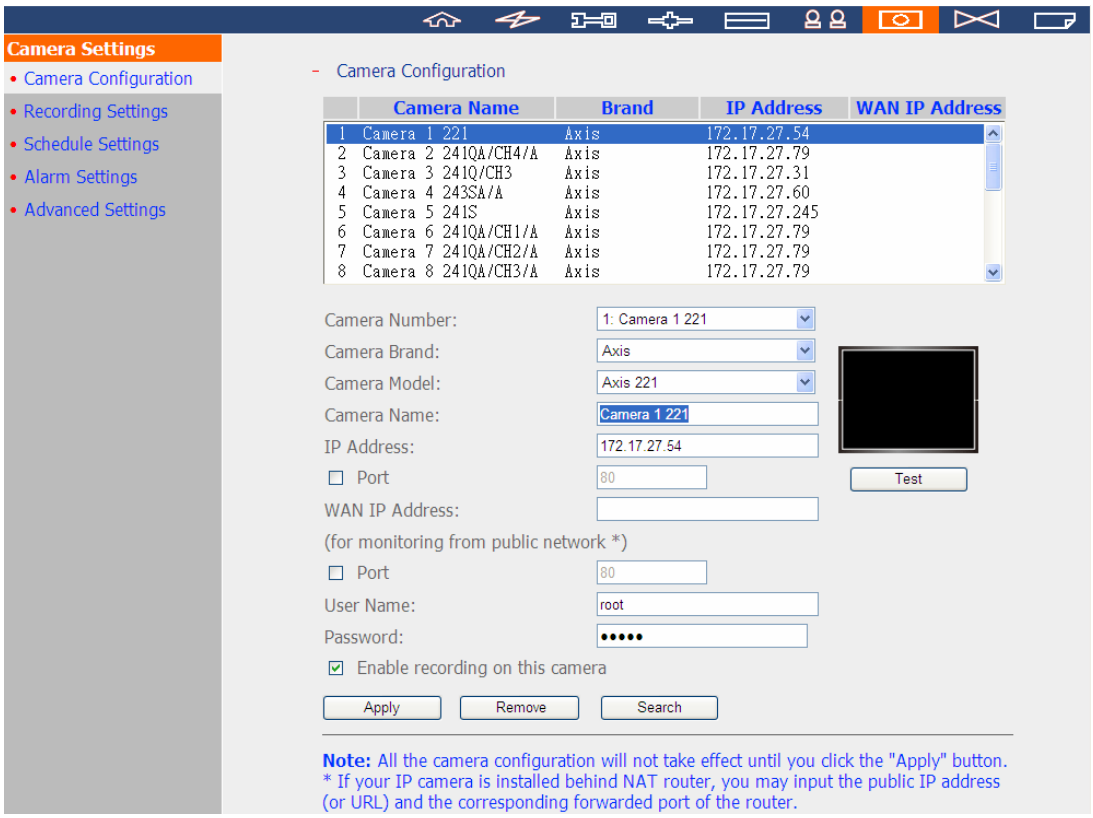
6.6 Camera Settings

You can configure the IP camera, recording, schedule, alarm, and advanced settings.

6.6.1 Camera Configuration

Please follow the steps below to configure the IP cameras.

1. Select a camera number.
2. Select the camera brand.
3. Select the camera model.
4. Enter the camera name.
5. Enter the IP address or domain name of the camera.
6. Enter the user name and the password to login the camera.
7. Select to enable the recording or not.
8. Click 'Apply' to save the settings.


Camera Settings
• Camera Configuration
• Recording Settings
• Schedule Settings
• Alarm Settings
• Advanced Settings
Camera Configuration
Camera Name
Brand
IP Address
WAN IP Address
1 Camera 1 221 Axis 172.17.27.54
2 Camera 2 241QA/CH4/A Axis 172.17.27.79
3 Camera 3 241Q/CH3 Axis 172.17.27.31
4 Camera 4 243SA/A Axis 172.17.27.60
5 Camera 5 241S Axis 172.17.27.245
6 Camera 6 241QA/CH1/A Axis 172.17.27.79
7 Camera 7 241QA/CH2/A Axis 172.17.27.79
8 Camera 8 241QA/CH3/A Axis 172.17.27.79
Camera Number: 1: Camera 1 221
Camera Brand: Axis
Camera Model: Axis 221
Camera Name: Camera 1 221
IP Address: 172.17.27.54
Port 80
Test
WAN IP Address:
(for monitoring from public network *)
Port 80
User Name: root
Password: •••••
Enable recording on this camera
Apply
Remove
Search
Note: All the camera configuration will not take effect until you click the "Apply" button.
* If your IP camera is installed behind NAT router, you may input the public IP address (or URL) and the corresponding forwarded port of the router.

Note:

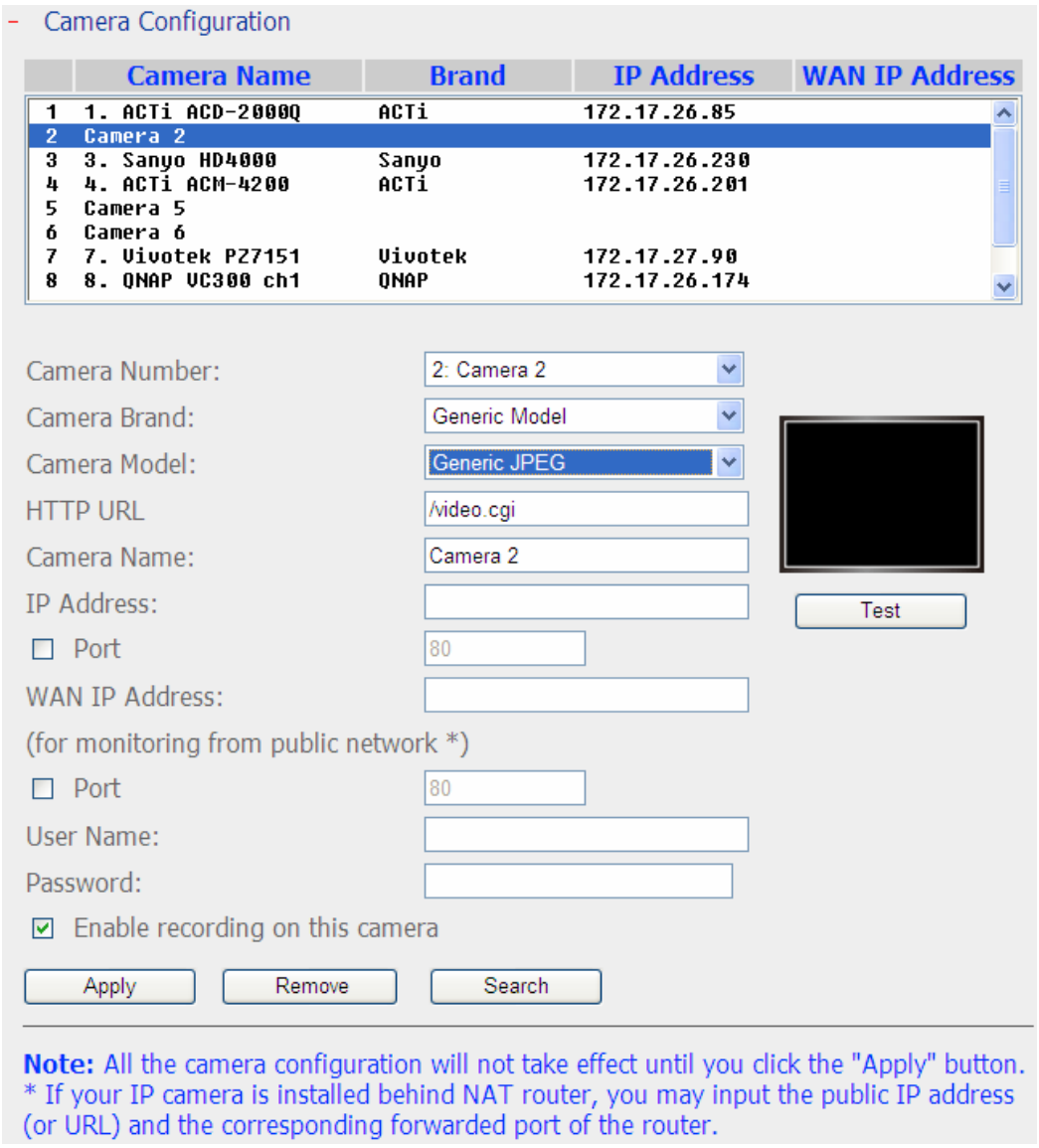
1. All the settings will not take effect until you click 'Apply'. When applying the changes, the recording operation will stop for a while (maximum 1 minute) and then restart.
2. Click 'Search' to search for the IP cameras on the local network. Select a channel for the IP camera and click 'Add' to add the camera. By using the search function, the camera model and the IP address are filled in automatically. Click 'Close' to close the search results.

Add generic IP camera support by the CGI command

The NVR provides an interface for the users to enter the JPEG CGI command of the IP cameras in order to receive the video and audio streaming data from the IP cameras and monitor, record, and playback the video of the IP cameras on the NVR.

Follow the steps below to configure your IP camera.

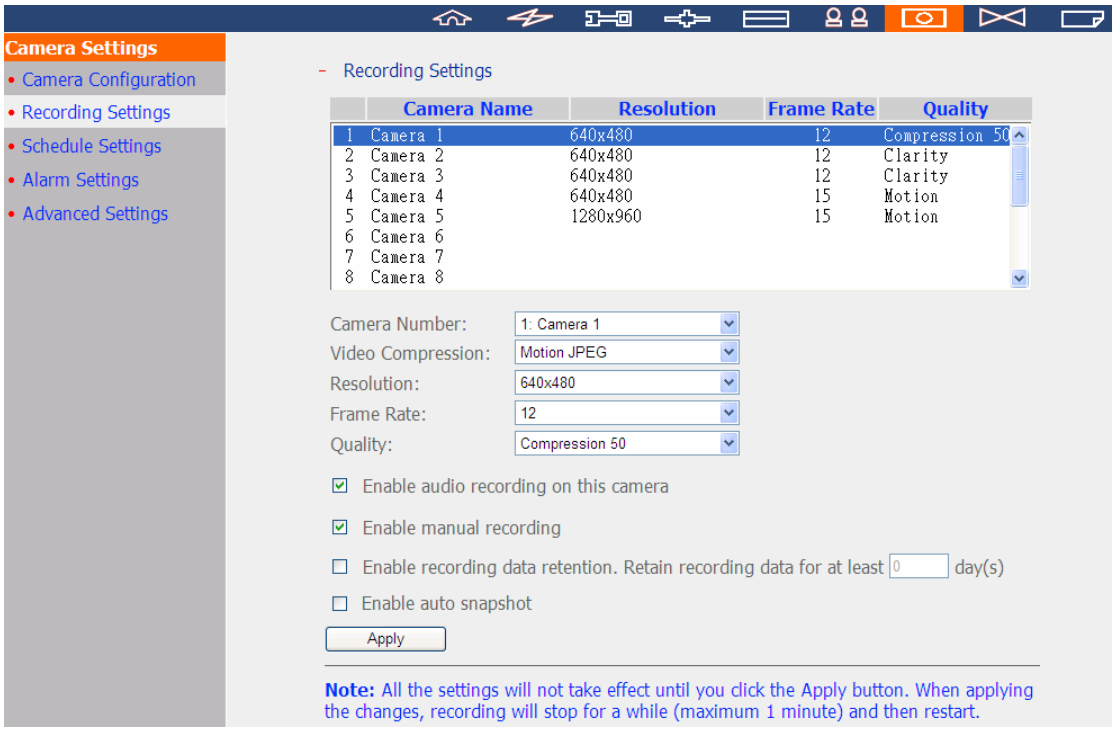
1. Select the IP camera number.
2. Select 'Generic Model' for the camera brand.
3. Select 'Generic JPEG' for the camera model.
4. Enter the cgi path of the IP camera in the 'HTTP URL' field.
5. Enter the camera name or the IP address of the camera.
6. Enter the user name and the password of the IP camera.
7. Select to enable the recording or not.
8. Click 'Apply' to save the settings.



Note: The QNAP NVR only supports JPEG CGI command interface, but does not guarantee the compatibility with all the IP camera brands.

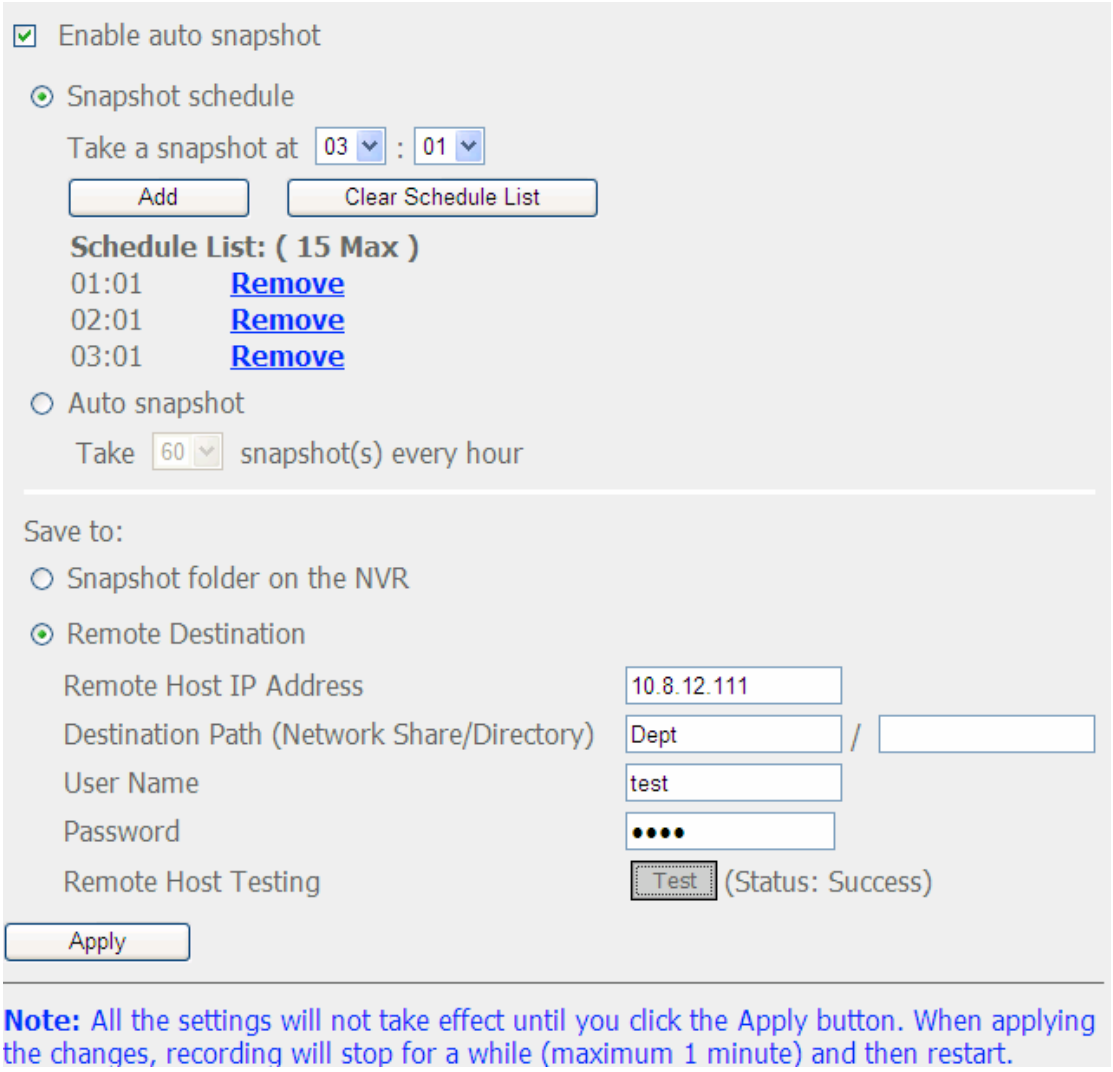
6.6.2 Recording Settings

Select a camera on the list and configure the recording resolution, frame rate, and quality. You can also enable audio recording, manual recording, recording data retention, and auto snapshot settings. Click 'Apply' to save the settings.


Camera Settings
• Camera Configuration
• Recording Settings
• Schedule Settings
• Alarm Settings
• Advanced Settings
Recording Settings
Camera Name
Resolution
Frame Rate
Quality
1 Camera 1 640x480 12 Compression 50
2 Camera 2 640x480 12 Clarity
3 Camera 3 640x480 12 Clarity
4 Camera 4 640x480 15 Motion
5 Camera 5 1280x960 15 Motion
6 Camera 6
7 Camera 7
8 Camera 8
Camera Number: 1: Camera 1
Video Compression: Motion JPEG
Resolution: 640x480
Frame Rate: 12
Quality: Compression 50
Enable audio recording on this camera
Enable manual recording
Enable recording data retention. Retain recording data for at least 0 day(s)
Enable auto snapshot
Apply
Note: All the settings will not take effect until you click the Apply button. When applying the changes, recording will stop for a while (maximum 1 minute) and then restart.

1. Video compression: Choose a video compression format for the recording.
2. Resolution: Select the recording resolution.
3. Frame rate: Adjust the frame rate for the recording. Note that the frame rate of the IP camera may be affected by the network traffic.
4. Quality: Select the image quality for the recording. More disk space is required to save higher quality recording.
5. Audio recording (optional): To enable the audio recording, click 'Enable audio recording on this camera'.
6. Estimated storage space for recording: The number of the estimated storage space for recording is only for reference. The actual space required depends on the network environment and the camera performance.
7. Manual recording: To allow manual activation and deactivation of manual recording function on the monitoring page, enable this option.
8. Enable recording data retention: Turn on this function and specify the minimum number of days to keep the recording data. Note that the number of days entered here must be smaller than the maximum number of days to keep all recordings configured in 'Camera Settings' > 'Advanced Settings'.

9. Enable auto snapshot: Select this option and the settings will be displayed. You can configure up to 15 schedules for automatic snapshot taking or specify the number of snapshots (max 60) the NVR should take every hour. The snapshots are saved to the share folder of the NVR by default. You can also specify a remote server to where the files will be saved. Make sure you have read/write access to the remote server.

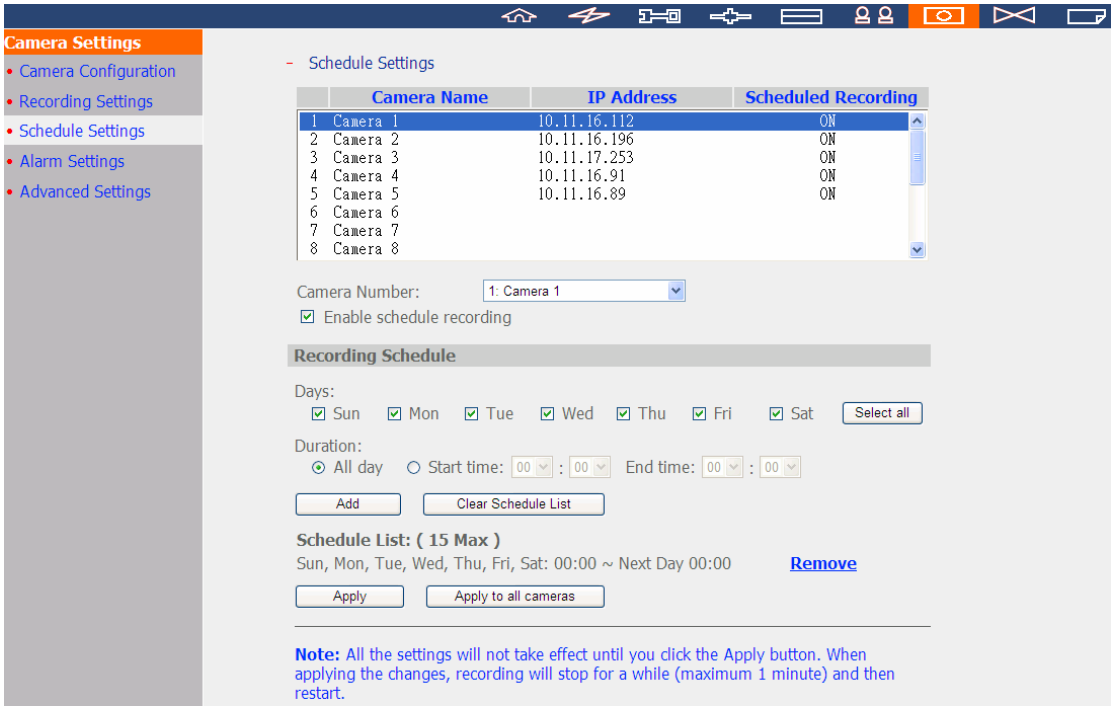

Enable auto snapshot
Snapshot schedule
Take a snapshot at 03 : 01
Add
Clear Schedule List
Schedule List: (15 Max)
01:01 Remove
02:01 Remove
03:01 Remove
Auto snapshot
Take 60 snapshot(s) every hour
Save to:
Snapshot folder on the NVR
Remote Destination
Remote Host IP Address 10.8.12.111
Destination Path (Network Share/Directory) Dept /
User Name test
Password ••••
Remote Host Testing Test (Status: Success)
Apply
Note: All the settings will not take effect until you click the Apply button. When applying the changes, recording will stop for a while (maximum 1 minute) and then restart.

Note:

- Starting and stopping manual recording will not affect scheduled or alarm recording tasks. They are independent processes.
- All the settings will not take effect until you click 'Apply'. When applying the changes, recording will stop for a while (maximum 1 minute) and then restart.

6.6.3 Schedule Settings

You can select continuous recording or scheduled recording. The default setting is continuous recording. To set up a recording schedule, select a camera number on the list. Then select the date and time and click 'Add'. Click 'Apply' to save the settings for the particular IP camera or click 'Apply to all cameras' to apply the settings to all the IP cameras. To delete a schedule, click 'Remove' on the schedule list.


Camera Settings
Camera Configuration
Recording Settings
Schedule Settings
Alarm Settings
Advanced Settings
Schedule Settings
Camera Name
IP Address
Scheduled Recording
1 Camera 1 10.11.16.112 ON
2 Camera 2 10.11.16.196 ON
3 Camera 3 10.11.17.253 ON
4 Camera 4 10.11.16.91 ON
5 Camera 5 10.11.16.89 ON
6 Camera 6
7 Camera 7
8 Camera 8
Camera Number: 1: Camera 1
Enable schedule recording
Recording Schedule
Days:
Sun Mon Tue Wed Thu Fri Sat
Select all
Duration:
All day Start time: 00 : 00 End time: 00 : 00
Add
Clear Schedule List
Schedule List: (15 Max)
Sun, Mon, Tue, Wed, Thu, Fri, Sat: 00:00 ~ Next Day 00:00
Remove
Apply
Apply to all cameras
Note: All the settings will not take effect until you click the Apply button. When applying the changes, recording will stop for a while (maximum 1 minute) and then restart.

Note:

1. You can add up to 15 schedules.
2. All the settings will not take effect until you click 'Apply'. When applying the changes, the recording will stop for a while (maximum 1 minute) and then restart.

6.6.4 Alarm Settings

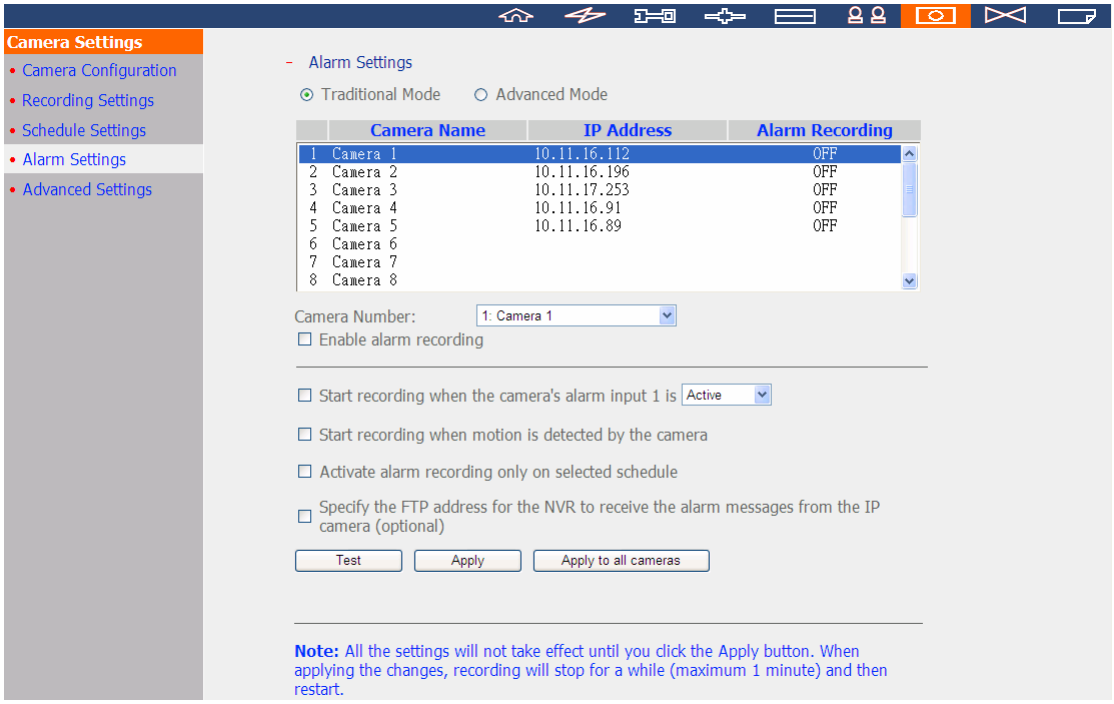
The NVR provides the 'Traditional Mode' and the 'Advanced Mode' for the alarm settings. Select the 'Traditional Mode' to use the standard alarm settings in response to the alarm events. To use the advanced event management, select the 'Advanced Mode'.

Note: The VS-201, VS-101, NVR-104 do not support the Advanced Mode in the 'Alarm Settings'.

Traditional Mode

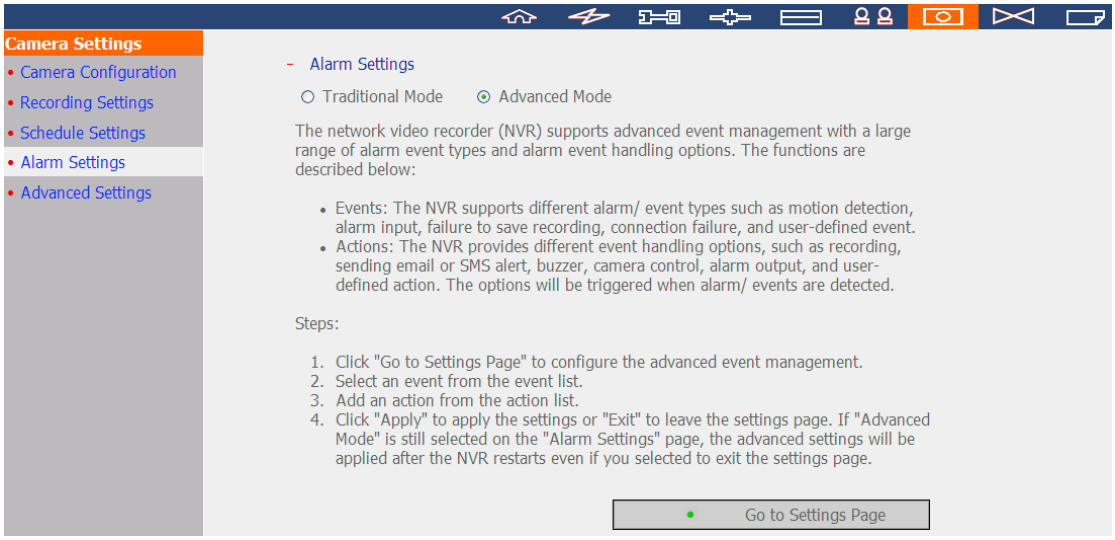
Select a channel (IP camera/video server) on the list and configure the alarm settings. The video recording will be activated when the alarm input of the selected channel is triggered or a moving object is detected.

When you enable the option 'Activate alarm recording only on selected schedule', the alarm recording will be activated only when the alarm input is triggered or a moving object is detected within the schedule. You can test the settings by clicking 'Test'. Click 'Apply' to apply the settings to the selected channel. To apply the same settings to all the channels on the list, click 'Apply to all cameras'.


Camera Settings
Camera Configuration
Recording Settings
Schedule Settings
Alarm Settings
Advanced Settings
Alarm Settings
Traditional Mode
Advanced Mode
Camera Name
IP Address
Alarm Recording
1 Camera 1 10.11.16.112 OFF
2 Camera 2 10.11.16.196 OFF
3 Camera 3 10.11.17.253 OFF
4 Camera 4 10.11.16.91 OFF
5 Camera 5 10.11.16.89 OFF
6 Camera 6
7 Camera 7
8 Camera 8
Camera Number:
1: Camera 1
Enable alarm recording
Start recording when the camera's alarm input 1 is
Active
Start recording when motion is detected by the camera
Activate alarm recording only on selected schedule
Specify the FTP address for the NVR to receive the alarm messages from the IP camera (optional)
Test
Apply
Apply to all cameras
Note: All the settings will not take effect until you click the Apply button. When applying the changes, recording will stop for a while (maximum 1 minute) and then restart.

Note:

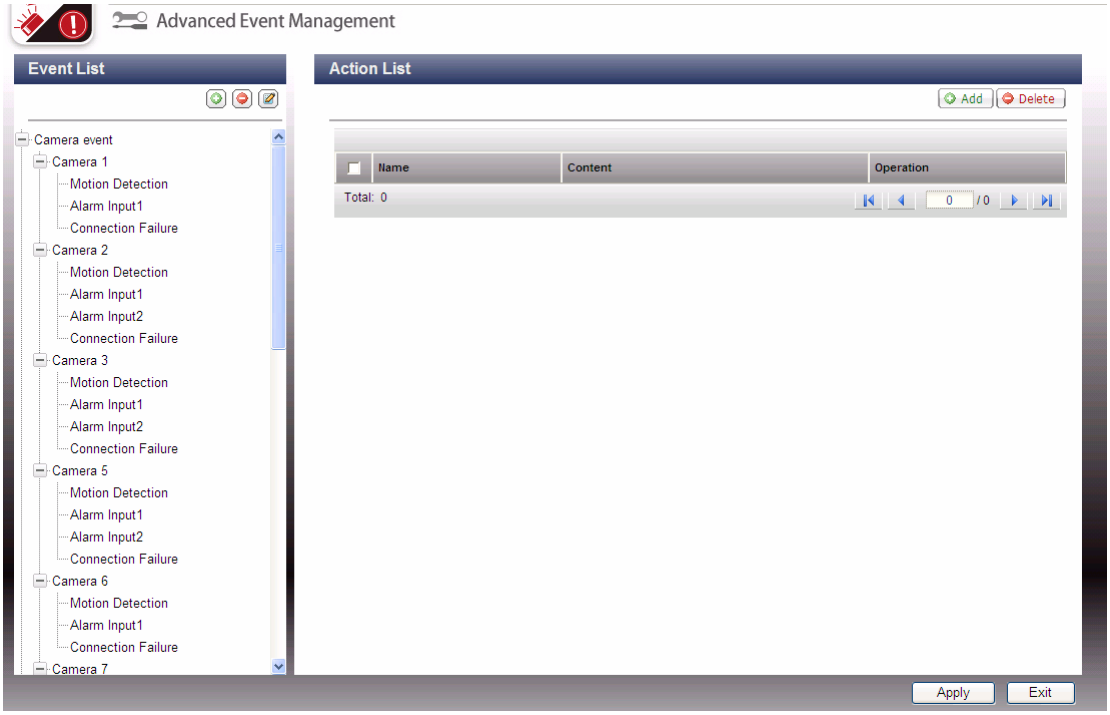
- All the settings will be effective after you click 'Apply'. When applying the changes, the current recording process will stop for a while (maximum 1 minute) and then restart.
- To avoid blocking by the firewall, the IP cameras or the video servers configured for the alarm recording must be located on the same subnet as the NVR.
- To switch from the traditional mode to the advanced mode, select 'Advanced Mode' and click 'Go to the settings page'.


Camera Settings
Camera Configuration
Recording Settings
Schedule Settings
Alarm Settings
Advanced Settings
Alarm Settings
Traditional Mode
Advanced Mode
The network video recorder (NVR) supports advanced event management with a large range of alarm event types and alarm event handling options. The functions are described below:
Events: The NVR supports different alarm/ event types such as motion detection, alarm input, failure to save recording, connection failure, and user-defined event.
Actions: The NVR provides different event handling options, such as recording, sending email or SMS alert, buzzer, camera control, alarm output, and user-defined action. The options will be triggered when alarm/ events are detected.
Steps:
1. Click "Go to Settings Page" to configure the advanced event management.
2. Select an event from the event list.
3. Add an action from the action list.
4. Click "Apply" to apply the settings or "Exit" to leave the settings page. If "Advanced Mode" is still selected on the "Alarm Settings" page, the advanced settings will be applied after the NVR restarts even if you selected to exit the settings page.
Go to Settings Page

Advanced Mode:

The advanced mode consists of the event and action sections. You can define the action to take for each event triggered on the IP cameras or the video servers connected to the NVR.

To configure the advanced event management by the 'Advanced Mode', select an event type on the left channel list and configure the actions to take on the right.



Note:

- Click 'Apply' to apply the settings or 'Exit' to exit the settings page. If the 'Advanced Mode' is selected on the 'Alarm Settings' page, the advanced settings will be applied after the NVR restarts even if you have selected to exit the settings page. The settings will be cancelled if you select to use 'Traditional Mode' after exiting the 'Advanced Mode'.
- To avoid blocking by the firewall, the IP cameras or the video servers configured for the alarm recording must be located on the same subnet as the NVR.
- To switch from the advanced mode to the traditional mode, select 'Traditional Mode' and click 'Apply'.

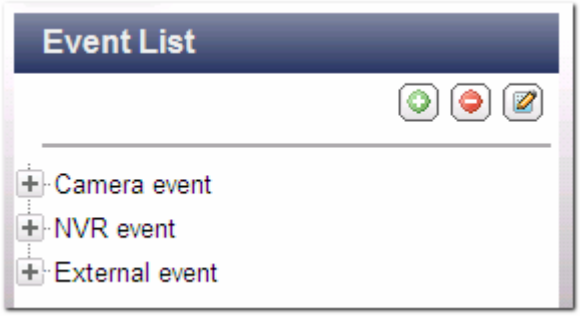
- **Events:**

  The events supported by the NVR are classified as camera events (motion detection, alarm input, camera disconnection), NVR events (recording failure), and external events (user-defined events).

Note: The camera events available vary according to the features supported by the IP cameras or video servers.

Buttons on the event list

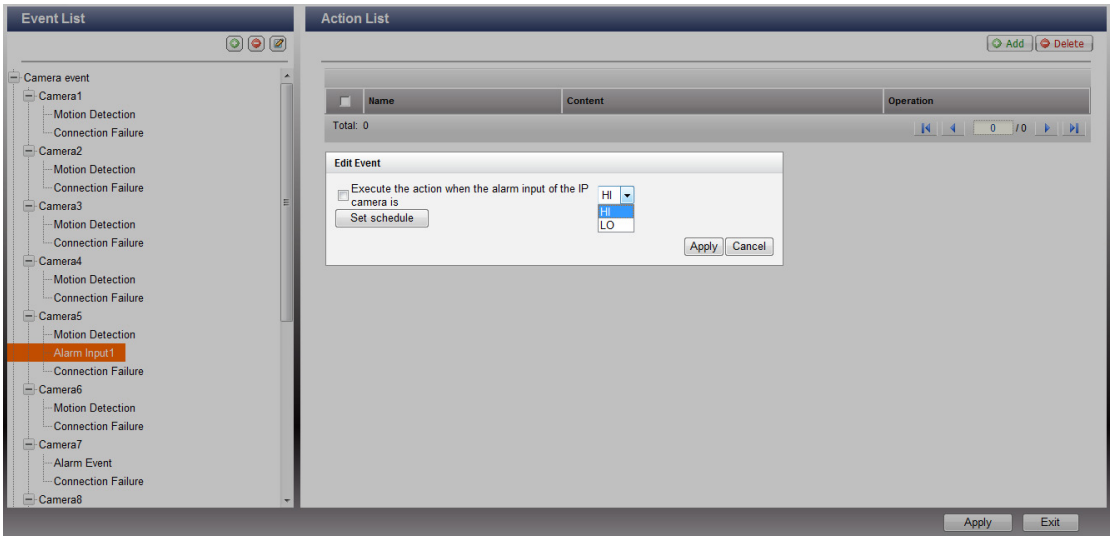
	Add an external event. This button is not applicable to the camera events and the NVR events.
	Edit an event. This button cannot be used to edit camera disconnection.
	Delete an external event. This button is not applicable to the camera events and the NVR events.



The NVR supports the following event types. Before you define the action settings, select the events to manage and configure the settings.

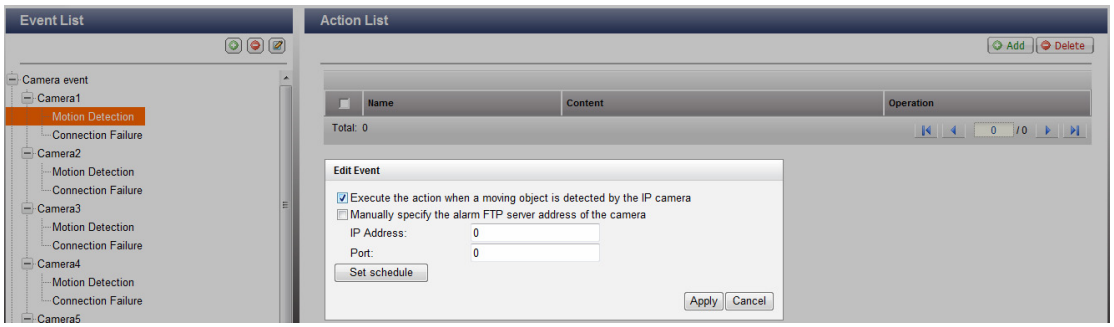
(1) Alarm input

This option allows the NVR to trigger an action when the alarm input of the IP camera or the video server is triggered. Select 'Camera event' from the 'Event List'. Locate the channel which supports alarm input and click 'Alarm Input'. Next, click the edit button ( ), enable this option, configure the settings, and click 'Apply'. You may also set the schedule to define the active period of the alarm settings. After that, define the action on the right (discussed in the later sections).



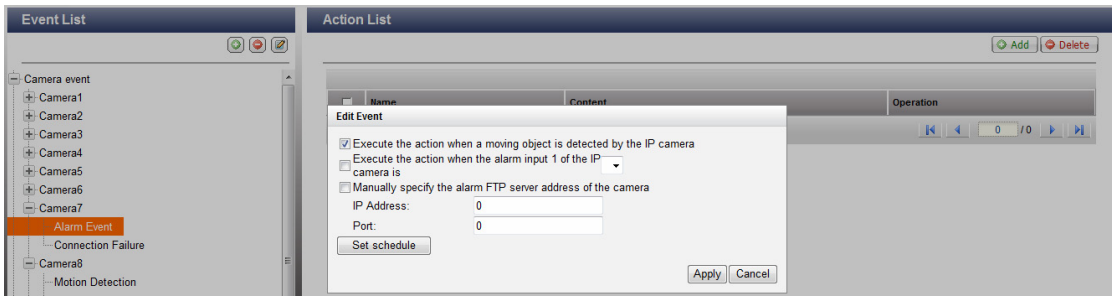
(2) Motion detection

This option allows the NVR to trigger an action when a moving object is detected by the IP camera or the video server. Select 'Camera event' from the 'Event List'. Locate the channel and click 'Motion Detection'. Next, click the edit button ( ), enable this option, configure the settings, and click 'Apply'. You may also set the schedule to define the active period of the alarm settings. After that, define the action on the right (discussed in the later sections).



(3) Alarm event

The alarm input and the motion detection settings of some IP cameras or video servers may be combined together and called 'Alarm Event' on the Event List. You can edit the event settings and define the action on the right (discussed in the later sections).

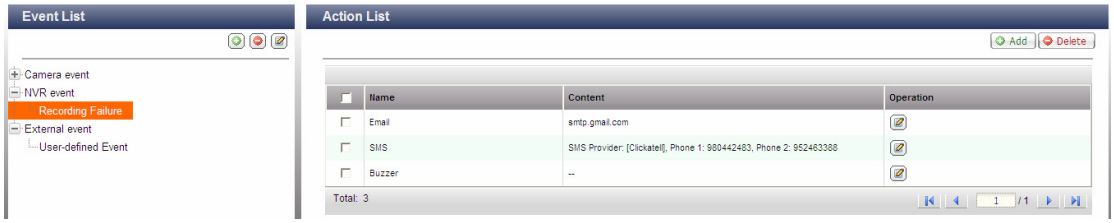


(4) Connection failure

This option allows the NVR to trigger an action when the IP camera or the video server is disconnected. Select 'Camera Event' from the 'Event List'. Locate the channel and click 'Connection Failure'. After that, define the action on the right (discussed in the later sections).

(5) Recording failure (NVR event)

This option allows the NVR to trigger an action when the video recording of the IP camera or the video server fails due to the hard disk bad blocks, file system crash, or other reasons. Select 'NVR event' from the 'Event List'. Click 'Recording failure'. Then define the action settings on the right (discussed in the later sections).



(6) External event (user-defined events)

To create a self-defined event on the NVR, select 'User-defined Event' under 'External event' on the 'Event List'. Then click the + button. Enter the event name, for example, 'door'.

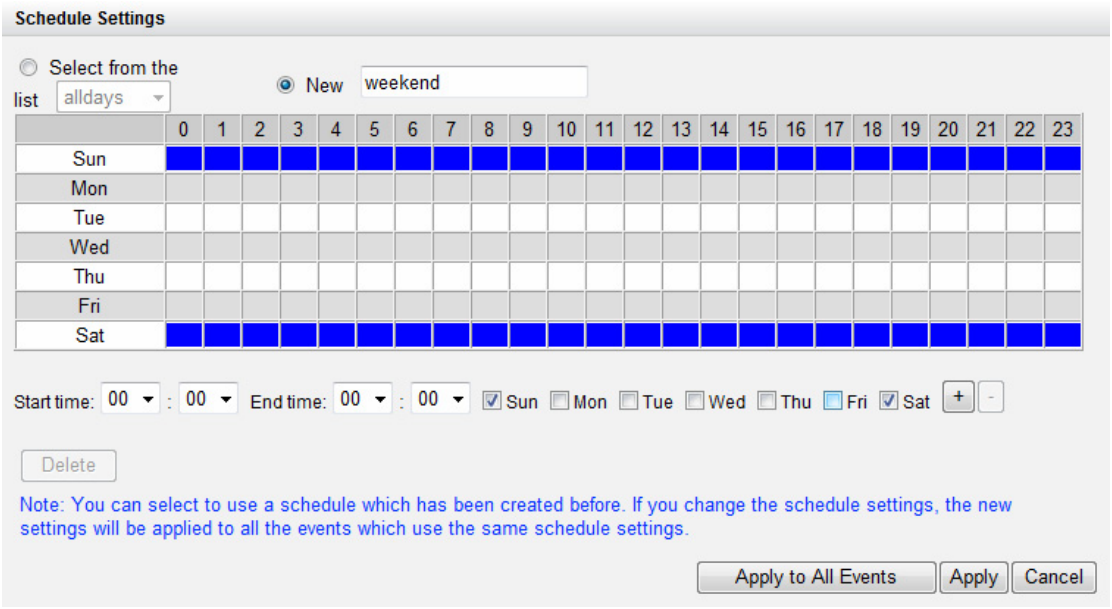
After creating an event, click the event name and define the action on the right (discussed in the later sections). After configuring the action settings, you can enter the CGI command (including the self-defined event name) in the web browser (Internet Explorer) to trigger the action anytime. The format of the CGI command is:
http://*NVRIP*/cgi-bin/logical_input.cgi?name=*event-name*. For example, http://10.8.12.12:80/cgi-bin/logical_input.cgi?name=door

Event schedule settings:

When you edit an event (not including camera disconnection, NVR events, and external events), you can click 'Set Schedule' to define when the alarm settings will be active.

To create a new schedule, select 'New' and enter the schedule name. The schedule supports maximum 25 characters (double-byte characters, spaces, and symbols are allowed). Select the day and time when the alarm settings should be active. Click + to add a schedule; or – to delete a schedule. Up to 6 settings can be defined for each schedule.

The settings will be shown on the graphical table. Click 'Apply' to save the settings. To use the same schedule for all the events, click 'Apply to All Events'. You can also select to use the default schedule or a formerly created schedule from the list. The default alarm settings are active all day, every day.

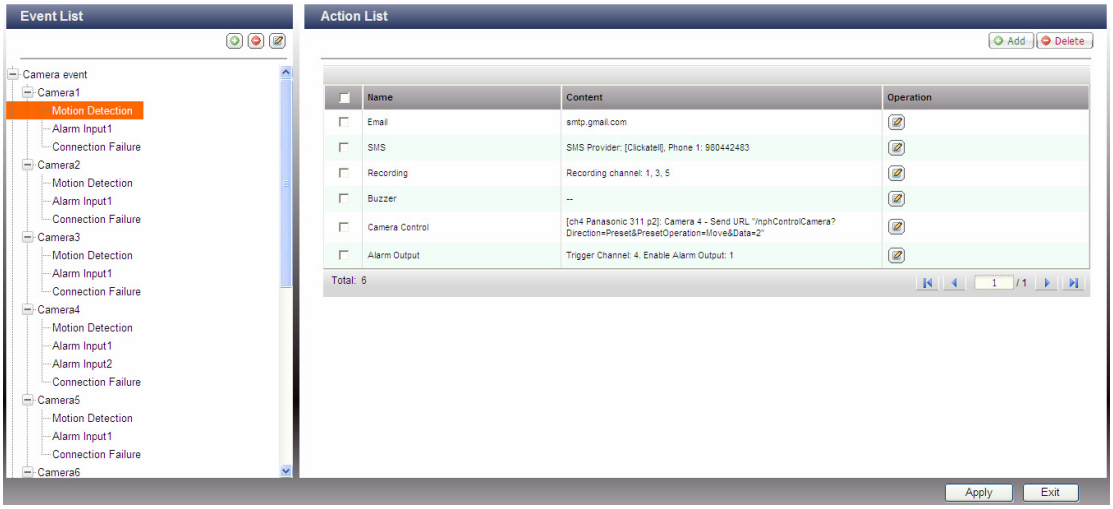

Schedule Settings
Select from the list
alldays
New
weekend
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Sun
Mon
Tue
Wed
Thu
Fri
Sat
Start time: 00 : 00 End time: 00 : 00
Sun Mon Tue Wed Thu Fri Sat
+ -
Delete
Note: You can select to use a schedule which has been created before. If you change the schedule settings, the new settings will be applied to all the events which use the same schedule settings.
Apply to All Events
Apply
Cancel

- **Actions:**

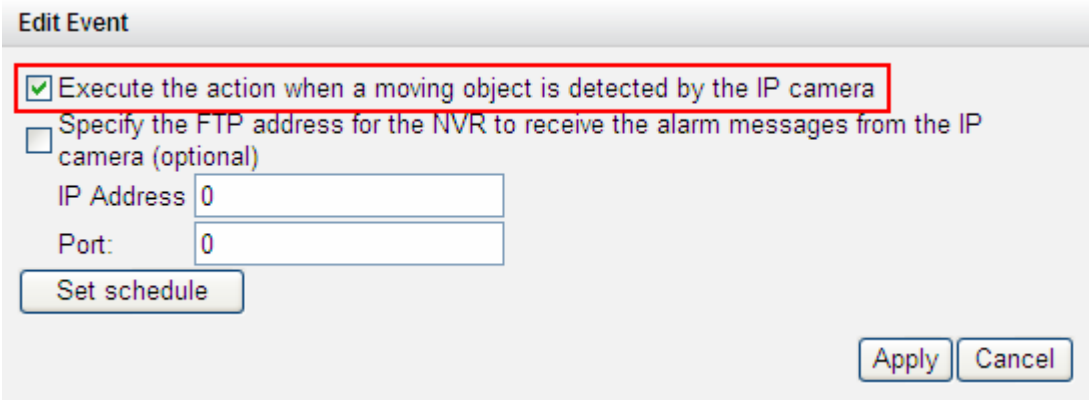
  The NVR supports different actions which can be activated when the selected events are triggered on the IP cameras or the video servers. The actions include video recording, email alert, SMS alert, buzzer, PTZ camera control, alarm output, and logic output.

Buttons on the action list

	Add an action: After configuring an event on the left, click 'Add' to create an action in response to the event. Click 'Apply' to save the settings.
	Edit an action: Select an event on the left. All the actions defined for this event will be shown. Check the box in front of the action name you want to edit. Then click this button on the 'Action' column to edit the action settings.
	Delete an action: Select an event on the left. All the actions defined for this event will be shown. Check the box in front of the action name you want to delete and click 'Delete'. You can select to delete multiple actions.



Note: Make sure you have enabled the action in the event settings; otherwise the action will not be executed. For example:


Edit Event
Execute the action when a moving object is detected by the IP camera
Specify the FTP address for the NVR to receive the alarm messages from the IP camera (optional)
IP Address
0
Port:
0
Set schedule
Apply
Cancel

(1) Recording

Select the channels (IP cameras or video servers) which will start recording when an event occurs. You may also select the following options:

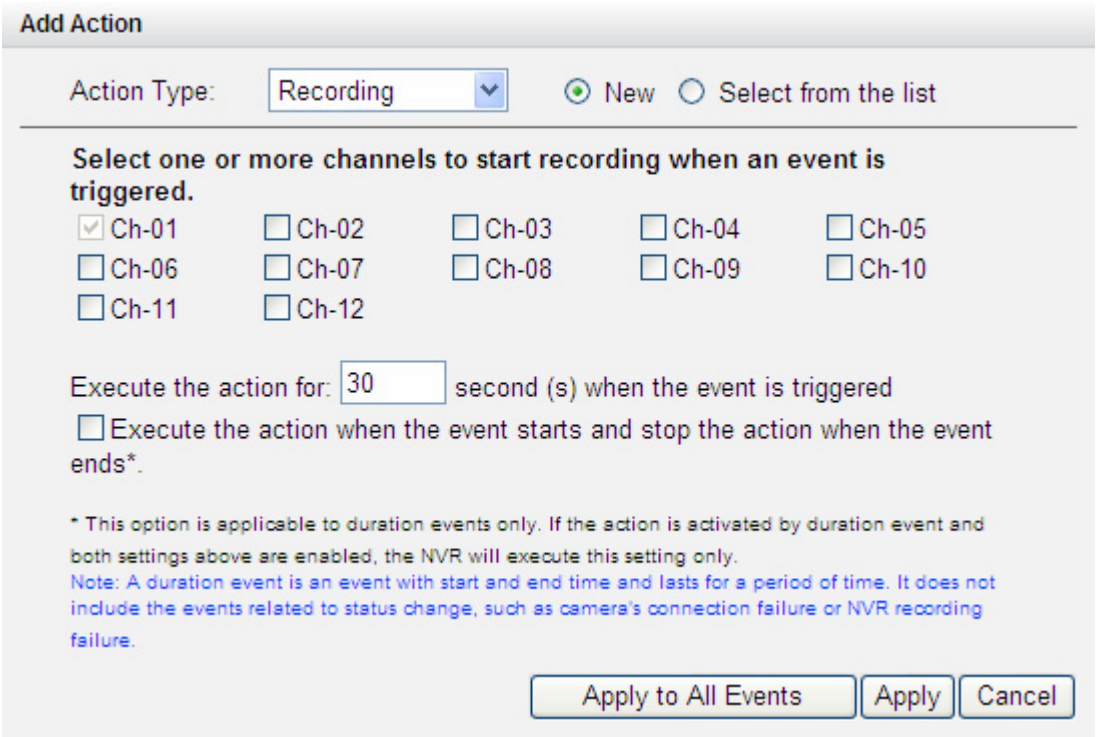
(i) Enter the time (in seconds) the recording should be executed after the event is triggered.

(ii) Start recording when the event starts and stop recording when the event ends.

The option (ii) is applicable to the duration events only. A duration event is an event with the start and end time and lasts for a period of time. It does not include the events related to status change, such as camera disconnection or NVR recording failure.

If the action is triggered by a duration event and both settings (i, ii) are enabled, the NVR will execute the second setting (ii) only.

Click 'Select from the list' to select an action setting which has been configured before.

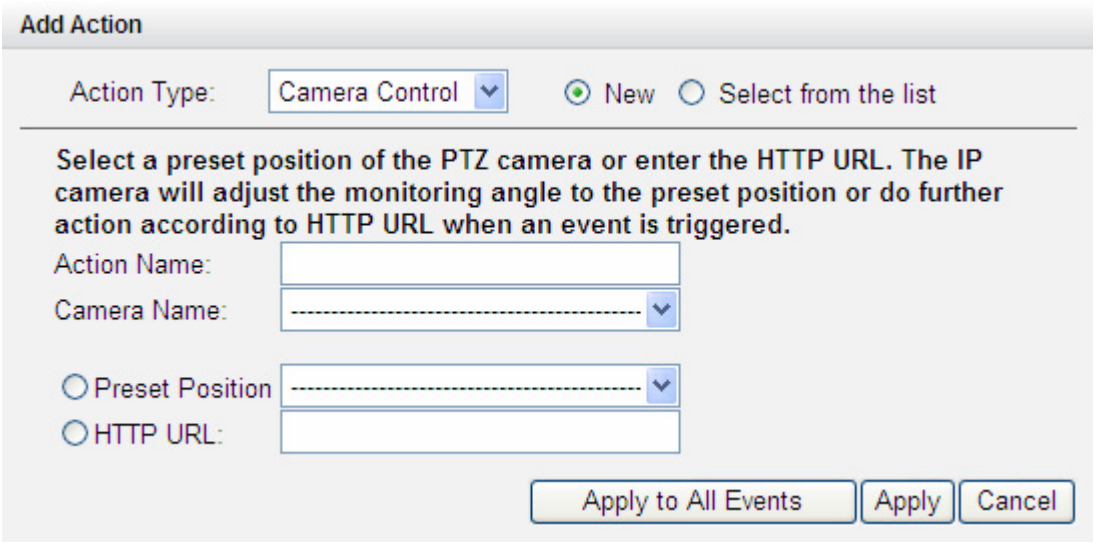

Add Action
Action Type:
Recording
New
Select from the list
Select one or more channels to start recording when an event is triggered.
Ch-01
Ch-02
Ch-03
Ch-04
Ch-05
Ch-06
Ch-07
Ch-08
Ch-09
Ch-10
Ch-11
Ch-12
Execute the action for: 30 second (s) when the event is triggered
Execute the action when the event starts and stop the action when the event ends*.
* This option is applicable to duration events only. If the action is activated by duration event and both settings above are enabled, the NVR will execute this setting only.
Note: A duration event is an event with start and end time and lasts for a period of time. It does not include the events related to status change, such as camera's connection failure or NVR recording failure.
Apply to All Events
Apply
Cancel

(2) Camera control

This option allows you to configure the PTZ camera to adjust to the preset position for monitoring or act according to the HTTP URL entered when an event is triggered. You can select a preset position from the drop-down menu or enter the HTTP URL.

Click 'Select from the list' to select an action setting which has been configured before.

Note: The preset names will appear only after you have configured the preset position settings of the PTZ cameras.


Add Action
Action Type:
Camera Control
New
Select from the list
Select a preset position of the PTZ camera or enter the HTTP URL. The IP camera will adjust the monitoring angle to the preset position or do further action according to HTTP URL when an event is triggered.
Action Name:
Camera Name:
Preset Position
HTTP URL:
Apply to All Events
Apply
Cancel

(3) Alarm output

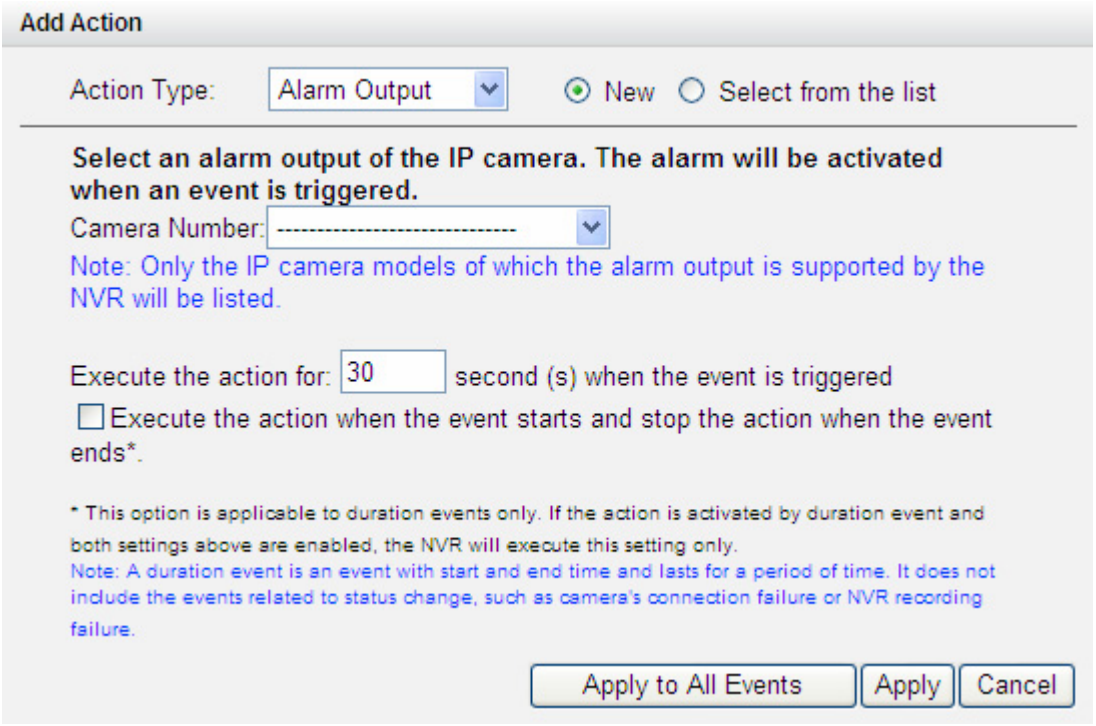
Select to activate the alarm device connected to the IP camera when an event is triggered. You may also select the following options:

(i) Enter the number of second(s) the alarm device will be active when the event is triggered.

(ii) Activate the alarm device when the event starts and stop the alarm device when the event ends.

The option (ii) is applicable to the duration events only. A duration event is an event with the start and end time and lasts for a period of time. It does not include the events related to status change, such as camera disconnection or NVR recording failure.

Click 'Select from the list' to select an action setting which has been configured before.

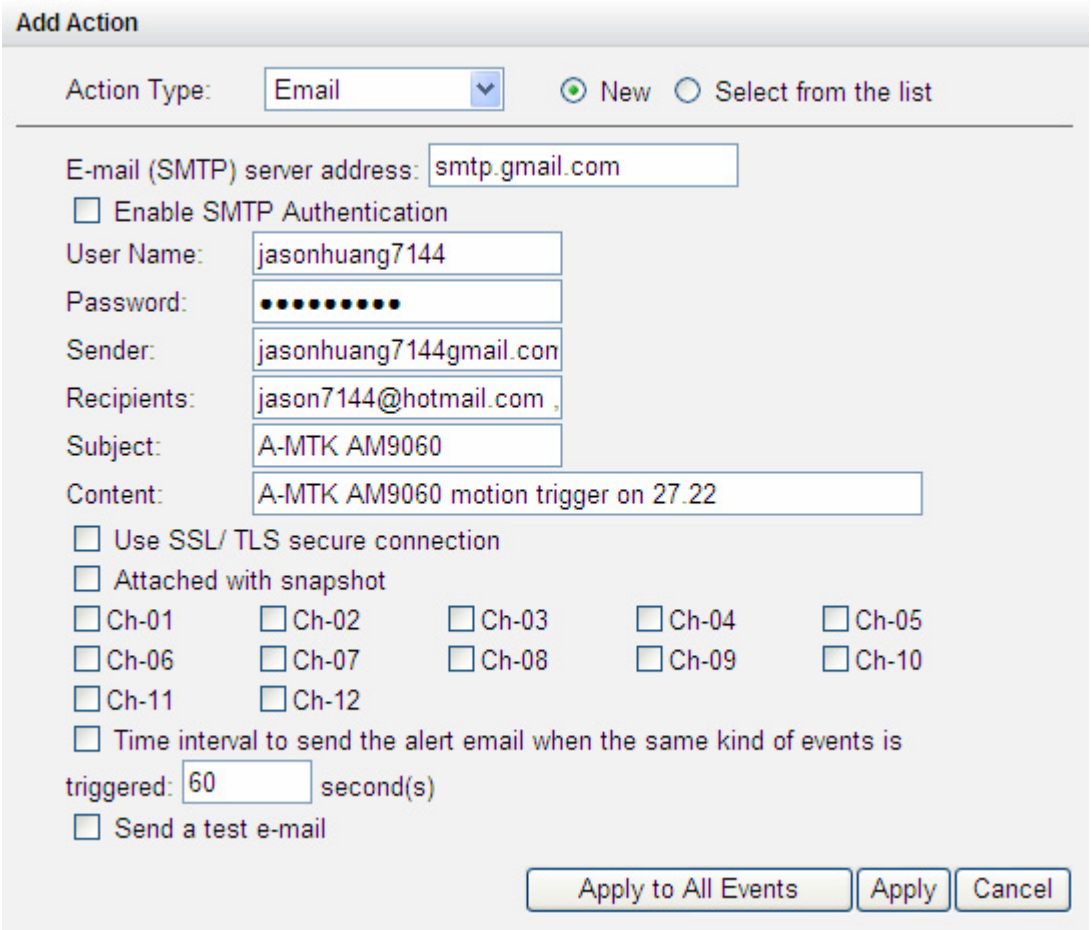

Add Action
Action Type:
Alarm Output
New
Select from the list
Select an alarm output of the IP camera. The alarm will be activated when an event is triggered.
Camera Number:

Note: Only the IP camera models of which the alarm output is supported by the NVR will be listed.
Execute the action for:
30
second (s) when the event is triggered
Execute the action when the event starts and stop the action when the event ends*.
* This option is applicable to duration events only. If the action is activated by duration event and both settings above are enabled, the NVR will execute this setting only.
Note: A duration event is an event with start and end time and lasts for a period of time. It does not include the events related to status change, such as camera's connection failure or NVR recording failure.
Apply to All Events
Apply
Cancel

(4) Email

To allow the system administrator to receive an instant email alert when an event is triggered, enter the SMTP settings. Multiple email addresses can be entered as the recipients. You may also select to attach the snapshots of the multiple channels (IP cameras/video servers) available on the NVR.

Click 'Select from the list' to select an action setting which has been configured before.

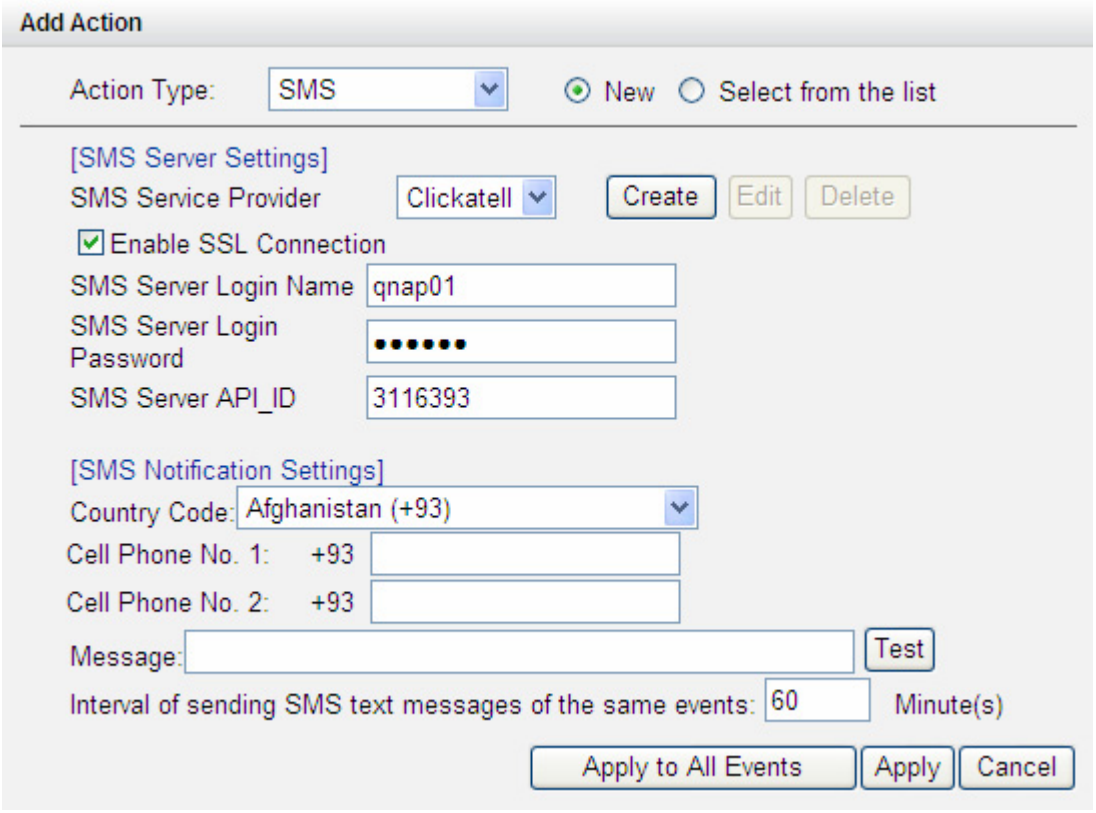


(5) SMS

To allow the system administrator to receive an instant SMS alert when an event is triggered, enter the SMS server settings. The default SMS service provider is Clickatell. To add other SMS service providers, click 'Add' and enter the provider's name and the URL template text.

Click 'Select from the list' to select an action setting which has been configured before.

Note: You will not be able to receive the SMS properly if the URL template text entered does not follow your SMS service provider's standard.



(6) Buzzer

Enable the buzzer when an event is triggered. You may also select the following options:

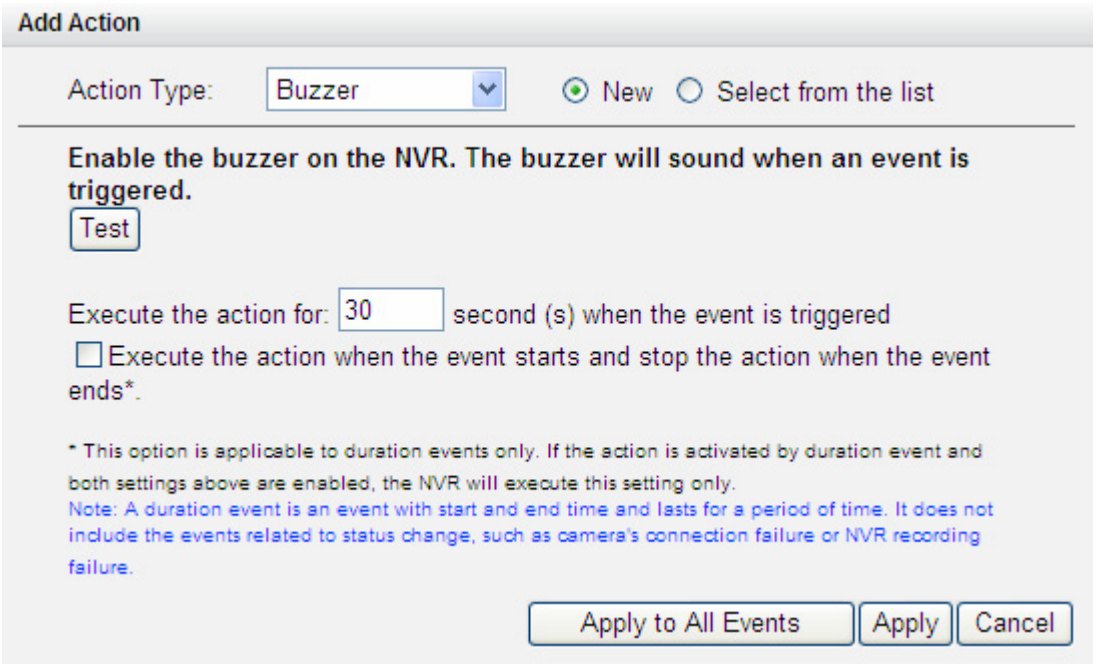
(i) Enter the time (in seconds) the buzzer will sound when the event is triggered.

(ii) Execute the buzzer when the event starts and stop the buzzer when the event ends.

The option (ii) is applicable to the duration events only. A duration event is an event with the start and end time and lasts for a period of time. It does not include the events related to status change, such as camera disconnection or NVR recording failure.

If the action is triggered by a duration event and both settings (i, ii) are enabled, the NVR will execute the second setting (ii) only.

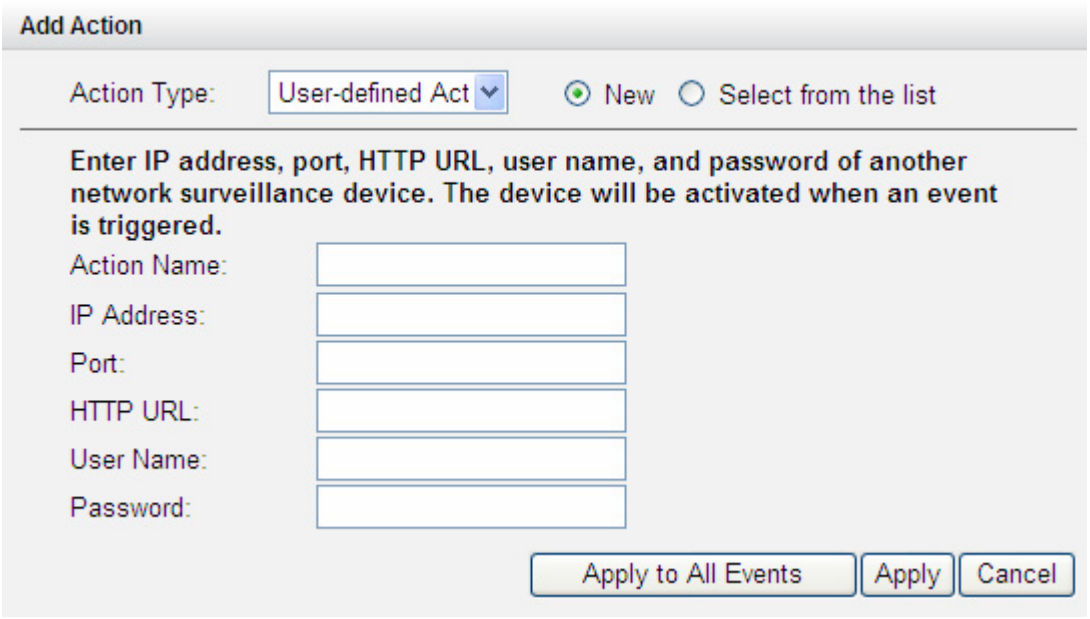
Click 'Select from the list' to select an action setting which has been configured before.


Add Action
Action Type:
Buzzer
New
Select from the list
Enable the buzzer on the NVR. The buzzer will sound when an event is triggered.
Test
Execute the action for:
30
second (s) when the event is triggered
Execute the action when the event starts and stop the action when the event ends*.
* This option is applicable to duration events only. If the action is activated by duration event and both settings above are enabled, the NVR will execute this setting only.
Note: A duration event is an event with start and end time and lasts for a period of time. It does not include the events related to status change, such as camera's connection failure or NVR recording failure.
Apply to All Events
Apply
Cancel

(7) User-defined Action

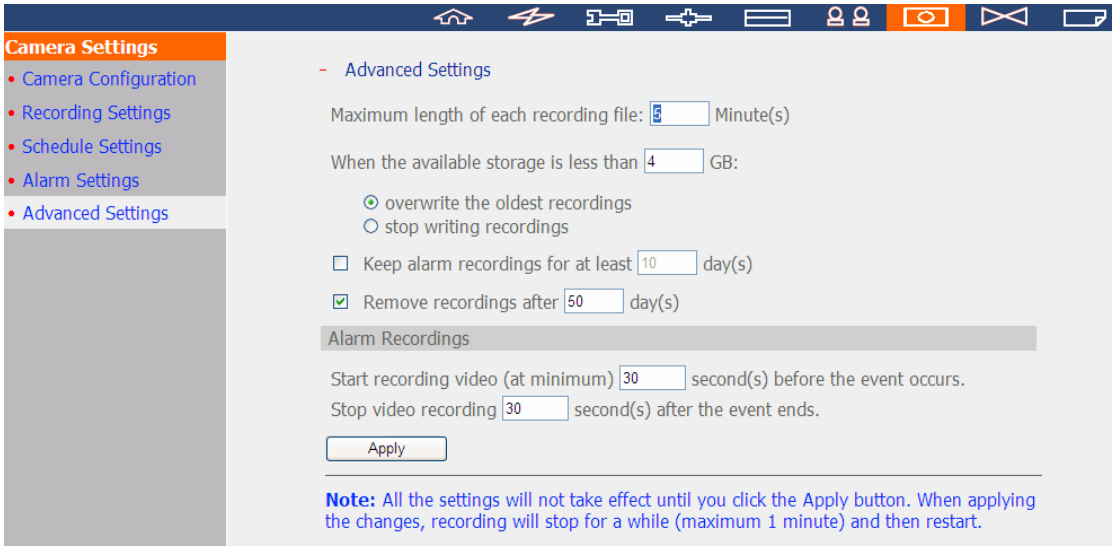
You can enter a self-defined action when an event is triggered. Enter the login account and password, IP address, port, and the HTTP URL of other surveillance devices. You can manage the devices such as fire protection devices, power controller, and air conditioning control.

Click 'Select from the list' to select an action setting which has been configured before.



6.6.5 Advanced Settings

You can configure the advanced recording settings in this section.


Camera Settings
• Camera Configuration
• Recording Settings
• Schedule Settings
• Alarm Settings
• Advanced Settings
Advanced Settings
Maximum length of each recording file: 3 Minute(s)
When the available storage is less than 4 GB:
overwrite the oldest recordings
stop writing recordings
Keep alarm recordings for at least 10 day(s)
Remove recordings after 50 day(s)
Alarm Recordings
Start recording video (at minimum) 30 second(s) before the event occurs.
Stop video recording 30 second(s) after the event ends.
Apply
Note: All the settings will not take effect until you click the Apply button. When applying the changes, recording will stop for a while (maximum 1 minute) and then restart.

- **Maximum period for each recording file:** Configure the maximum length of each recording file (maximum 15 min).

- **When the available storage is less than...GB:** Select the action to take when the available storage is less than the preset level. You can select to overwrite the oldest recordings or stop recording the new videos.

- **Keep alarm recordings for at least...day(s):** Specify the number of days that alarm recordings will be retained. This will prevent the recording files from being overwritten when the free storage space is insufficient.

- **Remove recordings after...day(s):** Enter the number of calendar days for VioStor to keep the recording files.
  Please make sure your storage capacity is enough to save the data for the number of calendar days you set. When the recording data has reached the expiry date, all the expired video files will be deleted. For example, if you set to delete the recording data after 7 calendar days, on the 8th day, the files recorded on the first day of each camera will be deleted so that VioStor can start to save the data on the 8th day.

- Pre-/Post-alarm Recordings
  - **Start recording video...second(s) before the event occurs:** Enter the number of seconds to start the recording before an event occurs.

- **Stop video recording…second(s) after the event ends:** Enter the number of seconds to stop the recording after an event ends.

The maximum number of seconds for the above settings is 300, i.e. 5 minutes.

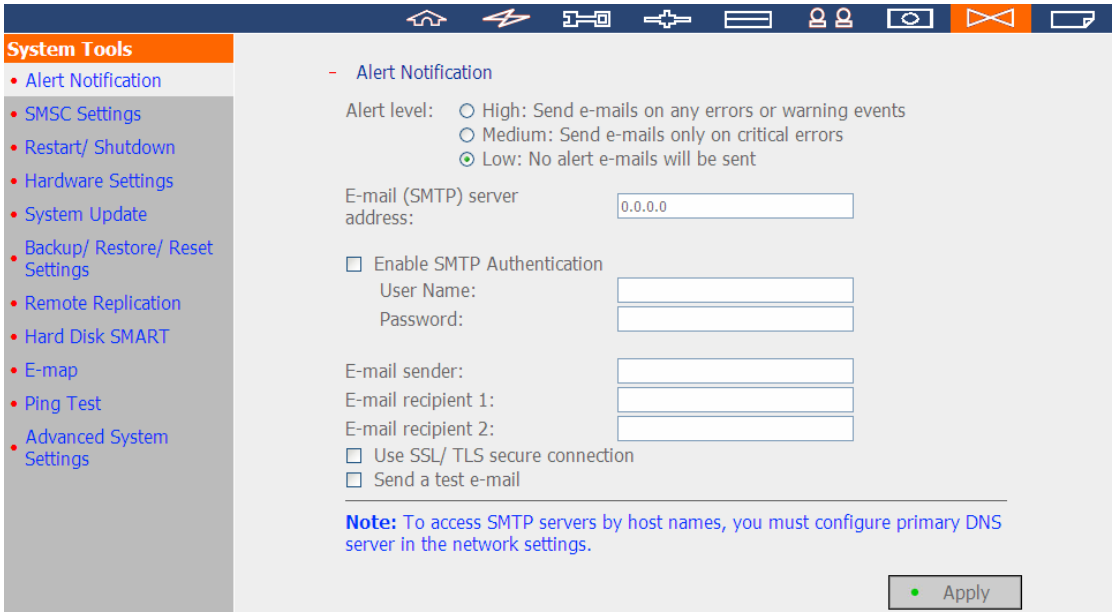
Note: All the settings will not be effective until you click 'Apply'. When applying the changes, the recording will stop for a while (maximum 1 minute) and then restart.

6.7 System Tools

The System Tools enable you to optimize the system maintenance and management. You can set the alert notification, restart or shut down the server, configure the hardware settings, update the system firmware, back up/restore/reset the system settings, set the E-map, and run the ping test.

6.7.1 Alert Notification

Enter the email address of the administrator and the IP address of the SMTP server. When an error occurs, e.g. power outage or a hard disk drive is unplugged, an alert email will be sent to the specified recipients automatically. You can go to the 'Event Logs' to check the details of all the errors and warnings.



Note: It is recommended to send a test email to make sure the mail server settings are correct.

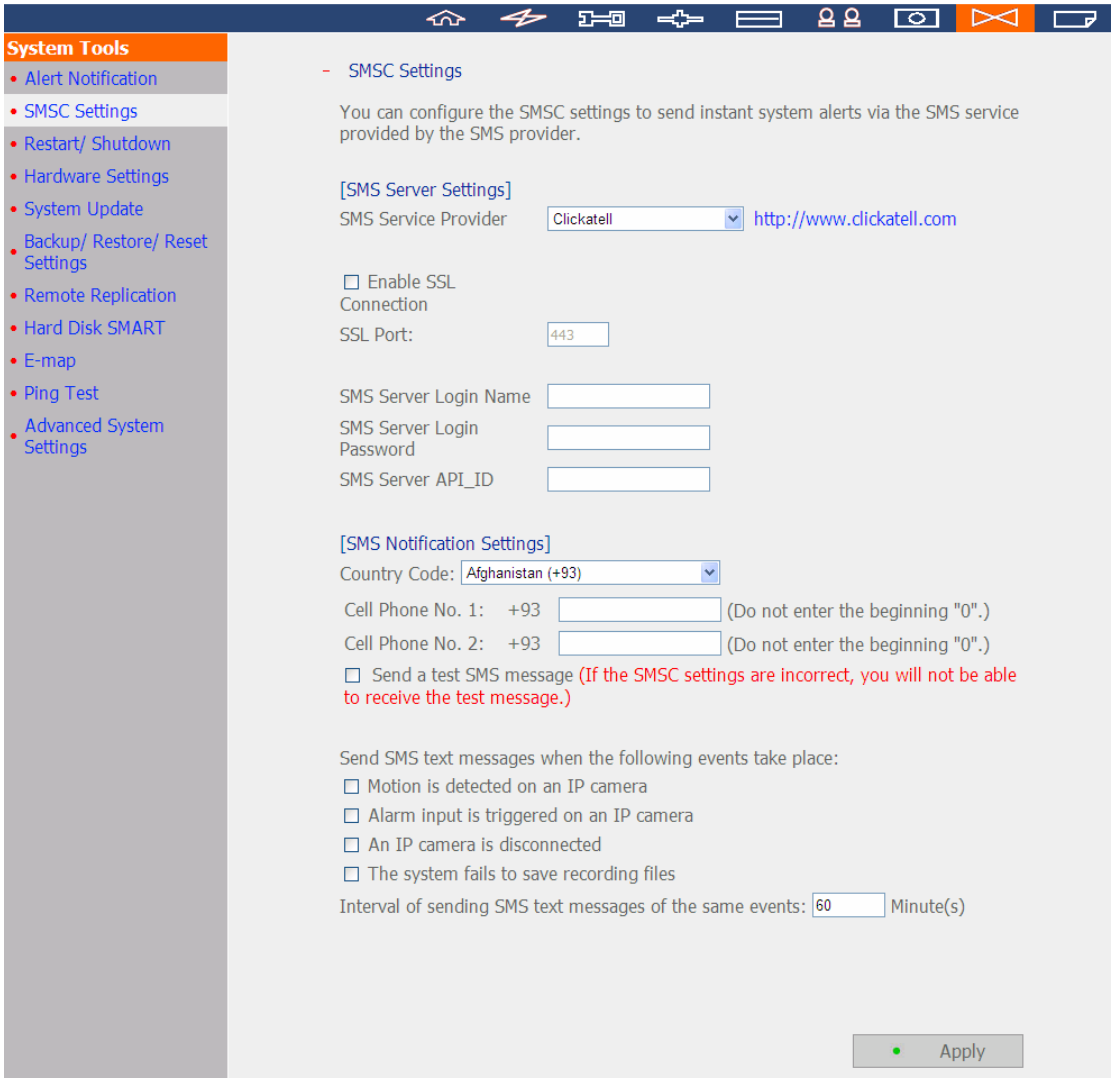
6.7.2 SMSC Settings

You can configure the SMSC (Short message service centre) settings to send the SMS text messages to the particular mobile phone numbers when an event takes place on the NVR. The default SMS service provider is Clickatell. You may also add your own SMS service provider by selecting 'Add SMS Provider' from the drop-down menu.

When you select 'Add SMS service provider', you need to enter the name of the SMS provider and the URL template text.

Note:

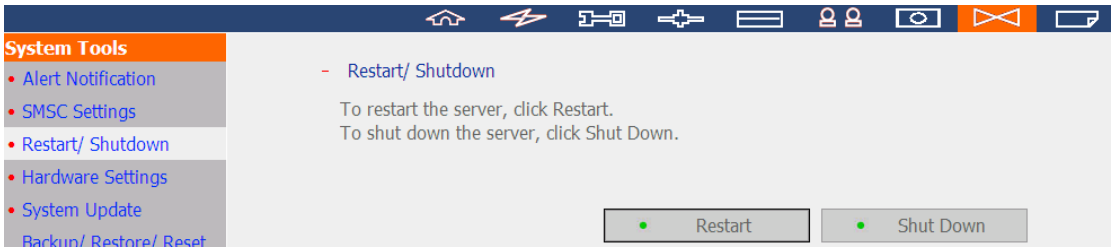
- You will not be able to receive the SMS properly if the URL template text entered does not follow the standard of your SMS service provider.
- Please send a test SMS to verify the settings are correct.
- When the 'Advanced mode' is in use in the 'Alarm Settings', this page will become inactive. You may go to 'Camera Settings' > 'Alarm Settings' > 'Advanced Mode' to edit the SMS settings or select to use the 'Traditional Mode' and configure the SMS settings on this page.


System Tools
Alert Notification
SMSC Settings
Restart/ Shutdown
Hardware Settings
System Update
Backup/ Restore/ Reset Settings
Remote Replication
Hard Disk SMART
E-map
Ping Test
Advanced System Settings
SMSC Settings
You can configure the SMSC settings to send instant system alerts via the SMS service provided by the SMS provider.
[SMS Server Settings]
SMS Service Provider
Clickatell
http://www.clickatell.com
Enable SSL Connection
SSL Port:
443
SMS Server Login Name
SMS Server Login Password
SMS Server API_ID
[SMS Notification Settings]
Country Code:
Afghanistan (+93)
Cell Phone No. 1: +93
(Do not enter the beginning "0".)
Cell Phone No. 2: +93
(Do not enter the beginning "0".)
Send a test SMS message (If the SMSC settings are incorrect, you will not be able to receive the test message.)
Send SMS text messages when the following events take place:
Motion is detected on an IP camera
Alarm input is triggered on an IP camera
An IP camera is disconnected
The system fails to save recording files
Interval of sending SMS text messages of the same events:
60
Minute(s)
Apply

6.7.3 Restart/Shut Down

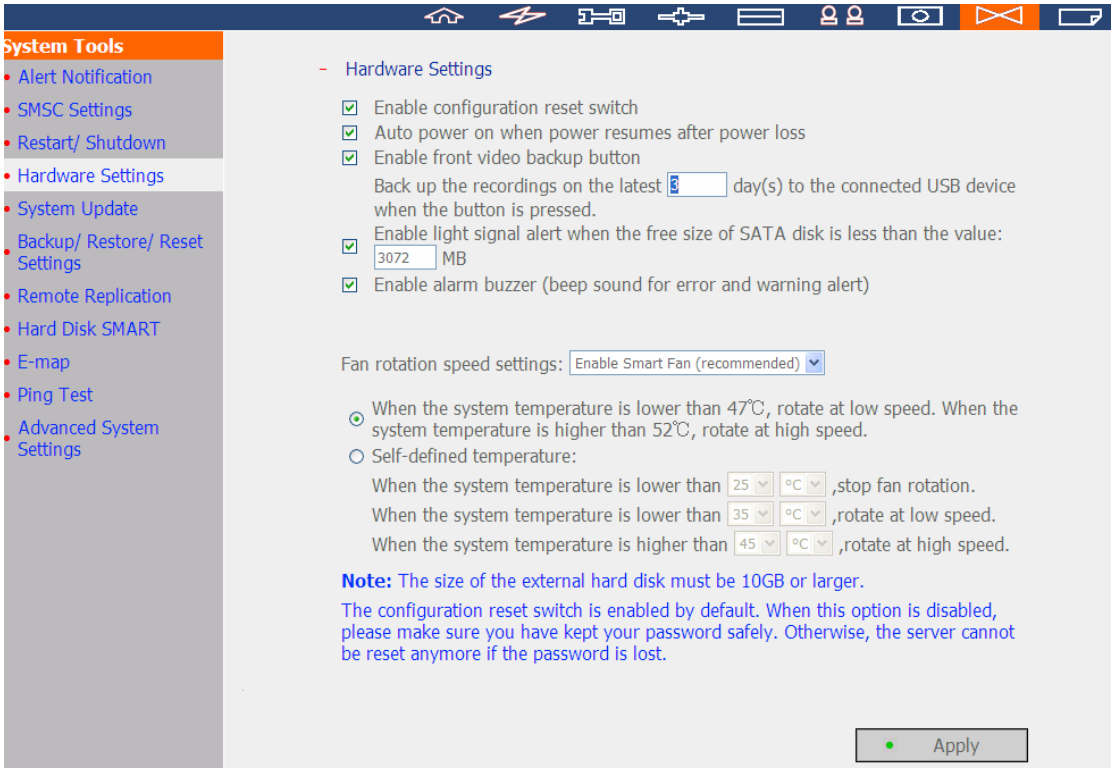
Follow the steps below to restart or shut down the server.

1. Go to 'System Tools' > 'Restart/Shutdown'.
2. Click 'Restart' to reboot the server or 'Shut Down' to turn off the NVR.



6.7.4 Hardware Settings

You can enable or disable the hardware functions of the NVR.


System Tools
Alert Notification
SMSC Settings
Restart/ Shutdown
Hardware Settings
System Update
Backup/ Restore/ Reset Settings
Remote Replication
Hard Disk SMART
E-map
Ping Test
Advanced System Settings
Hardware Settings
Enable configuration reset switch
Auto power on when power resumes after power loss
Enable front video backup button
Back up the recordings on the latest 3 day(s) to the connected USB device when the button is pressed.
Enable light signal alert when the free size of SATA disk is less than the value: 3072 MB
Enable alarm buzzer (beep sound for error and warning alert)
Fan rotation speed settings: Enable Smart Fan (recommended)
When the system temperature is lower than 47℃, rotate at low speed. When the system temperature is higher than 52℃, rotate at high speed.
Self-defined temperature:
When the system temperature is lower than 25 °C ,stop fan rotation.
When the system temperature is lower than 35 °C ,rotate at low speed.
When the system temperature is higher than 45 °C ,rotate at high speed.
Note: The size of the external hard disk must be 10GB or larger.
The configuration reset switch is enabled by default. When this option is disabled, please make sure you have kept your password safely. Otherwise, the server cannot be reset anymore if the password is lost.
Apply

- **Enable the configuration reset switch**

  By enabling this option, you can press the reset button for 5 seconds to reset the administrator password and system settings to default.

Note: The configuration reset switch is enabled by default. When this option is disabled, make sure you have kept your password safely. Otherwise, the NVR cannot be reset anymore if the password is lost.

- **Auto power on when power resumes after power loss**

  When this function is enabled, the server will turn on automatically when the power resumes after a power loss.

- **Enable front video backup button**

  VioStor supports direct copy of the recording data on the NVR to the connected USB device via the USB port. You can set the number of days that the videos are recorded to copy to the device. To use this function, please follow the steps below:

  1. Set the number of days that the latest recordings should be backed up. If 3 days are entered, the recordings of today, yesterday and the day before yesterday will be backed up.
  2. Connect a USB storage device, for example, USB disk drive to the front USB port of VioStor.
  3. Press and hold the video backup button for 3 seconds*. VioStor will start copying the recording data to the USB device instantly. If the USB device is recognized, the USB LED glows blue. The USB LED flashes blue when the data is being copied. The LED will become blue again when the data copy is finished. You can then safely remove the device.

  Note: The video backup function supports only the USB devices of 10GB storage capacity or above.
  This function is not supported by the VS-8040U-RP, VS-8032U-RP, VS-8024U-RP.

  * If you are using the VS-101/VS-201/NVR-104, press the video backup button for 0.5 second to execute the data copy.

- **Enable light signal alert when the free size of SATA disk is less than the value**

  The status LED flashes red and green when this function is enabled and the free space of the hard disk drive(s) on the NVR is less than the value. The range of the value is 1–51200 MB.

- **Enable alarm buzzer**

  Enable this option to allow the NVR to sound when an error occurs.

- **Enable redundant power supply mode**

  When the redundant power supply mode is enabled, the NVR beeps if any of the power supply units does not function properly.

  *This function applies to the models with redundant power supply only.

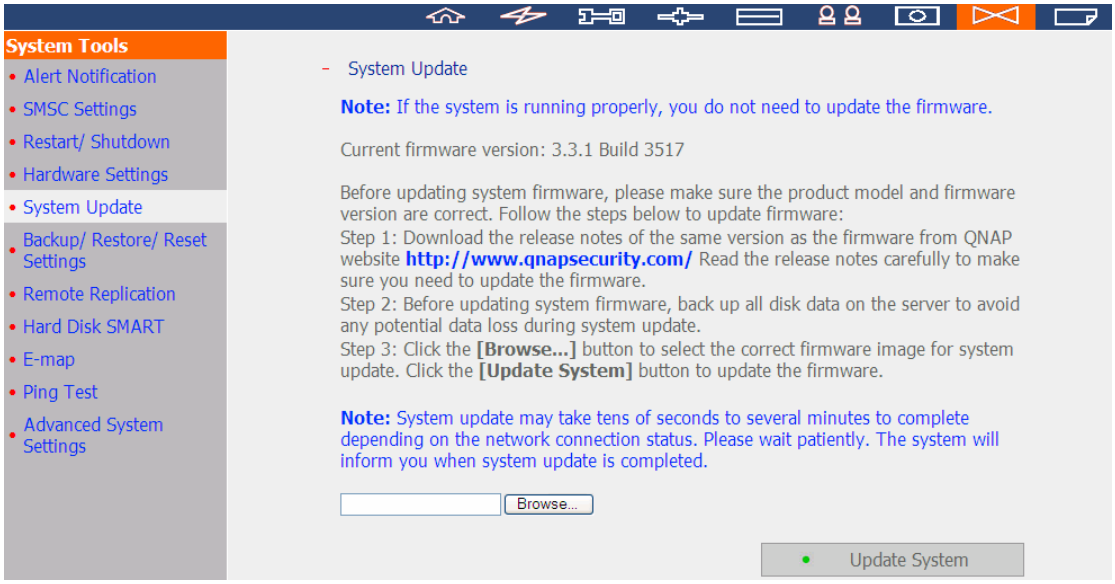
- **Smart fan configuration**

  After enabling the smart fan, the fan rotation speed is automatically adjusted according to the system temperature of the NVR. It is recommended to enable this option. By manually setting the fan rotation speed, the fan rotates at the defined speed continuously.

  *This function is not supported by the VS-101, VS-201, NVR-104.

6.7.5 System Update

QNAP provides new firmware release for VioStor NVR from time to time to provide updated features and enhancements. You may update the system firmware in order to use these new features. Before updating the system firmware, make sure the product model and the firmware version are correct. Follow the steps below to update firmware:


System Tools
Alert Notification
SMSC Settings
Restart/ Shutdown
Hardware Settings
System Update
Backup/ Restore/ Reset Settings
Remote Replication
Hard Disk SMART
E-map
Ping Test
Advanced System Settings
System Update
Note: If the system is running properly, you do not need to update the firmware.
Current firmware version: 3.3.1 Build 3517
Before updating system firmware, please make sure the product model and firmware version are correct. Follow the steps below to update firmware:
Step 1: Download the release notes of the same version as the firmware from QNAP website http://www.qnapsecurity.com/ Read the release notes carefully to make sure you need to update the firmware.
Step 2: Before updating system firmware, back up all disk data on the server to avoid any potential data loss during system update.
Step 3: Click the [Browse...] button to select the correct firmware image for system update. Click the [Update System] button to update the firmware.
Note: System update may take tens of seconds to several minutes to complete depending on the network connection status. Please wait patiently. The system will inform you when system update is completed.
Browse...
Update System

Note: If the NVR is running properly, you may not need to update the firmware. QNAP is not responsible for any forms of data loss caused by improper or illegal system update.

1. Download the release notes of the firmware from the QNAP website http://www.qnapsecurity.com/. Read the release notes carefully to make sure you need to update the firmware.
2. Unzip the firmware file to your local computer.
3. Before updating the system firmware, you are strongly suggested to back up all the disk data on the NVR to avoid any potential data loss during the system update.
4. Click 'Browse…' to select the correct firmware image. Click 'Update System' to update the firmware.

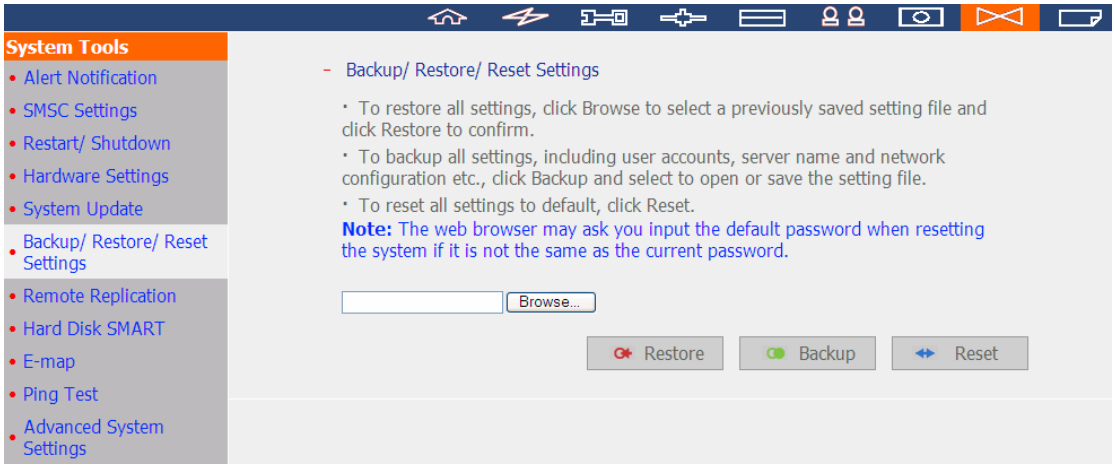
The system update may take several minutes to complete depending on the network connection status. Please wait patiently. The NVR will inform you when the system update is completed.

When updating the firmware, make sure the power supply is at a steady state. Otherwise, the NVR may be unable to start up.

6.7.6 Backup/Restore/Reset Settings

- To back up all the settings, including the user accounts, the server name and the network configuration, click 'Backup' and select to open or save the setting file.
- To restore all the settings, click 'Browse' to select a previously saved setting file and click 'Restore'.
- To reset all the settings to default, click 'Reset'. **All the disk data will be deleted.**

Caution: When you press 'Reset' on this page, all the drive data, user accounts, network shares, and the system settings will be cleared and restored to default. Please make sure you have backed up all the important data and the system settings before resetting the NVR.

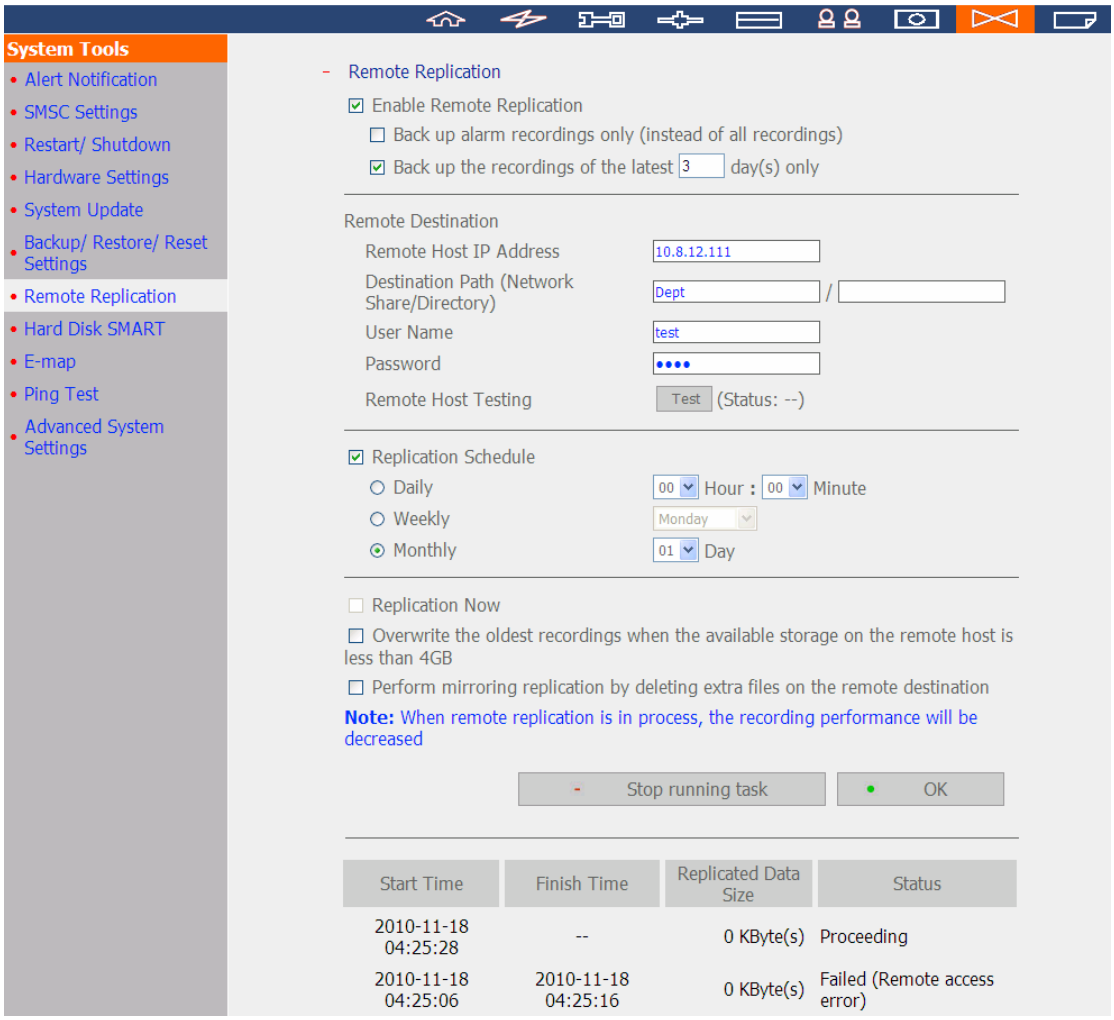

System Tools
Alert Notification
SMSC Settings
Restart/ Shutdown
Hardware Settings
System Update
Backup/ Restore/ Reset Settings
Remote Replication
Hard Disk SMART
E-map
Ping Test
Advanced System Settings
Backup/ Restore/ Reset Settings
To restore all settings, click Browse to select a previously saved setting file and click Restore to confirm.
To backup all settings, including user accounts, server name and network configuration etc., click Backup and select to open or save the setting file.
To reset all settings to default, click Reset.
Note: The web browser may ask you input the default password when resetting the system if it is not the same as the current password.
Browse...
Restore
Backup
Reset

6.7.7 Remote Replication

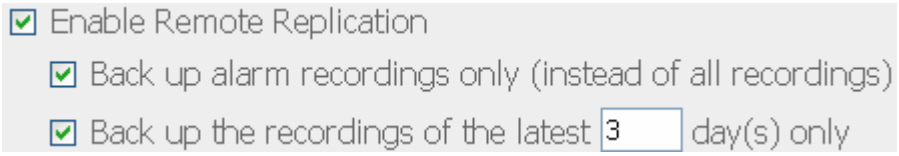
You can use the remote replication feature to copy the recording data of the local VioStor to a remote QNAP network attached storage (NAS). The remote QNAP NAS is hereafter referred to as 'the remote storage device'.

Note: Before using this function, make sure the Microsoft networking service of the remote storage device is enabled, and the corresponding path and user access right have been correctly configured.

1. Login VioStor and go to 'System Tools' > 'Remote Replication'.



2. Enable remote replication (support multiple choices)


Enable Remote Replication
Back up alarm recordings only (instead of all recordings)
Back up the recordings of the latest 3 day(s) only

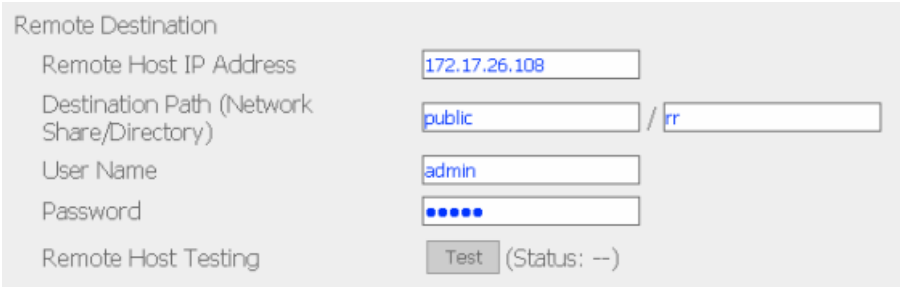
In the above example, the NVR only copies the alarm recording data of the latest 3 days to the remote storage device.

- Check the box 'Enable remote replication' to activate this feature. The NVR executes automatic backup of the recording data to the remote storage device according to the settings.

- When you select 'Back up alarm recordings only (instead of all recordings)', the NVR will only copy the alarm recording data to the remote storage device. If this option is unchecked, the NVR will back up all the recording data to the remote storage device.

- When you select 'Back up the recordings of the latest…day(s) only' and enter the number of days, the NVR will back up the latest recording data to the remote storage device automatically according to your settings. If this option is unchecked, the NVR will copy all the recording data to the remote storage device.

3. Configure your remote storage server

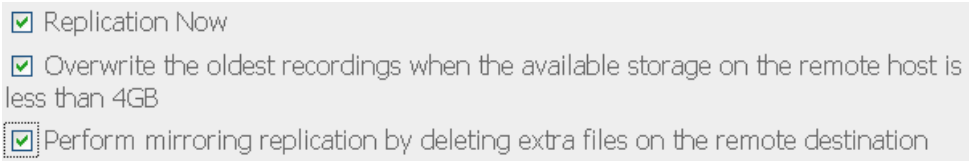


Note: It is recommended to execute the 'Remote host testing' function to verify the connection to the remote storage device is successful.

4. Configure the remote replication schedule

For example, to enable the NVR to copy the recording data automatically to the remote storage device at 01:15 every Monday, please do the following:
Check the box 'Replication Schedule', select 'Weekly', enter 01 Hour: 15 minute, and select 'Monday'.

5. Select the backup options


Replication Now
Overwrite the oldest recordings when the available storage on the remote host is less than 4GB
Perform mirroring replication by deleting extra files on the remote destination

(a) Select 'Replication Now', the NVR will back up the recording data to the remote storage device immediately.

(b) Select 'Overwrite the oldest recordings when the available storage on the remote host is less than 4GB'; the NVR will overwrite the oldest recording data when the free space on the server is less than 4GB.

(c) Select 'Perform mirroring replication by deleting extra files on the remote replication', the NVR will synchronize the recording data between itself and the remote storage device and delete any extra files on the remote storage device.

- When the above options are all checked and you execute the remote replication, the NVR will do the following:
  i. The NVR checks if there are files on the remote storage device that are different from the local source. If yes, the differentiated files will be deleted.
  ii. Next, the NVR checks the free space of remote storage device. If the free space is larger than 4GB, the remote replication will be executed immediately.
  iii. If the free space of the remote storage device is less than 4GB, the NVR will overwrite the recording data of the oldest day and then executes the remote replication.

10. The NVR displays the latest 10 remote replication records.

Start Time	Finish Time	Replicated Data Size	Status
2007-11-08 18:00:07	2007-11-09 06:29:39	54.36 GByte(s)	Succeeded
2007-11-07 18:00:06	2007-11-08 10:18:26	74.17 GByte(s)	Succeeded
2007-11-06 18:00:02	2007-11-06 19:56:31	12.24 GByte(s)	Succeeded
2007-11-05 18:00:06	2007-11-05 20:05:06	12.53 GByte(s)	Succeeded
2007-11-04 18:00:03	2007-11-04 19:59:28	11.33 GByte(s)	Succeeded
2007-11-03 18:00:08	2007-11-03 20:01:54	11.75 GByte(s)	Succeeded
2007-11-02 18:14:09	2007-11-02 19:11:16	4.98 GByte(s)	Failed (Remote access error)
2007-11-01 18:00:04	2007-11-02 02:32:27	43.68 GByte(s)	Succeeded
2007-10-31 18:00:05	2007-11-01 03:34:13	33.01 GByte(s)	Failed (An internal error occurred)

In the above example:

1. When the status is shown as 'Failed (Remote access error)': You may check if the remote storage device is running or the network settings are correct.
2. When the status is shown as 'Failed (An internal error occurred)': You may check the hard drive status of VioStor or check the Event Logs.

Note: The time required by VioStor to replicate the data to the remote storage device varies depending on the network environment. If the remote replication takes too long, some recording files may be overwritten by the NVR. To avoid this, you are recommended to refer to the status messages to analyse the time required for the remote replication and adjust the replication schedule accordingly.

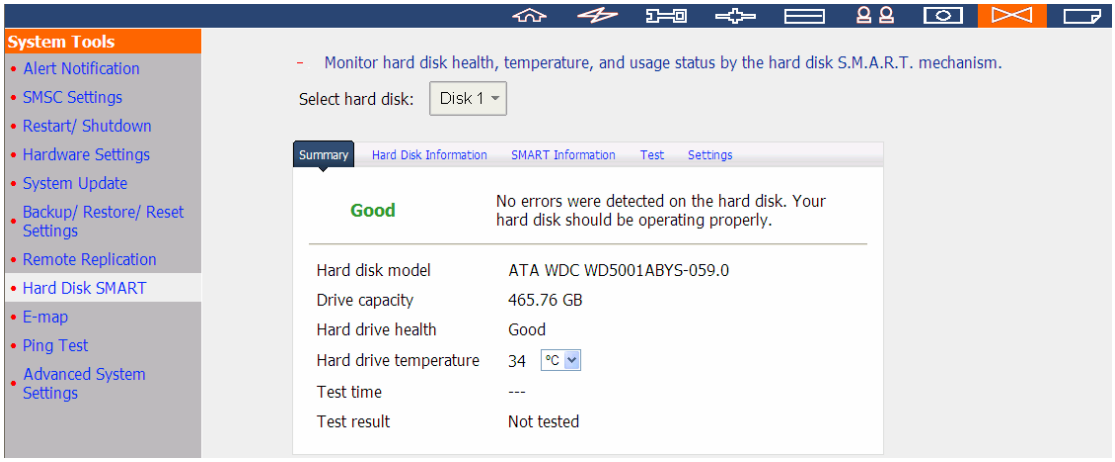
6.7.8 Hard Disk SMART

This function is not supported by the VS-101, VS-201, NVR-104.

This page enables you to monitor the health, temperature, and status of the hard disk drives by the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology).

Select a hard disk drive to view the following information by clicking the corresponding buttons.

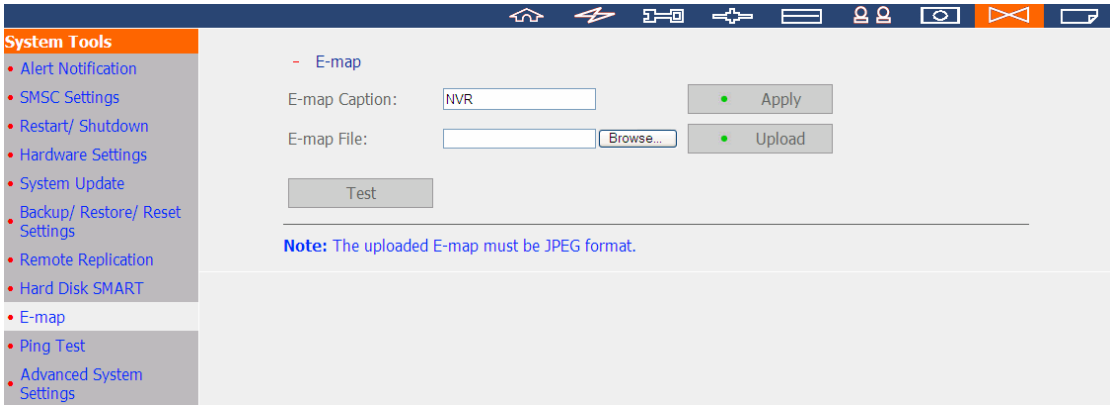
Field	Description
Summary	Displays the summary and the latest test result of the hard disk drive.
Hard disk information	Displays the hard disk drive details such as the model, the serial number, and the drive capacity.
SMART information	Displays the hard disk drive S.M.A.R.T. The items of which the values are lower than the threshold are regarded as abnormal.
Test	To perform a quick or complete hard drive S.M.A.R.T. test and display the results.
Settings	To configure the temperature alarm. When the hard drive temperature is higher than the preset value, VioStor will record the error logs. You can also configure the quick and complete test schedule. The latest test result is shown on the Summary page.



6.7.9 E-map

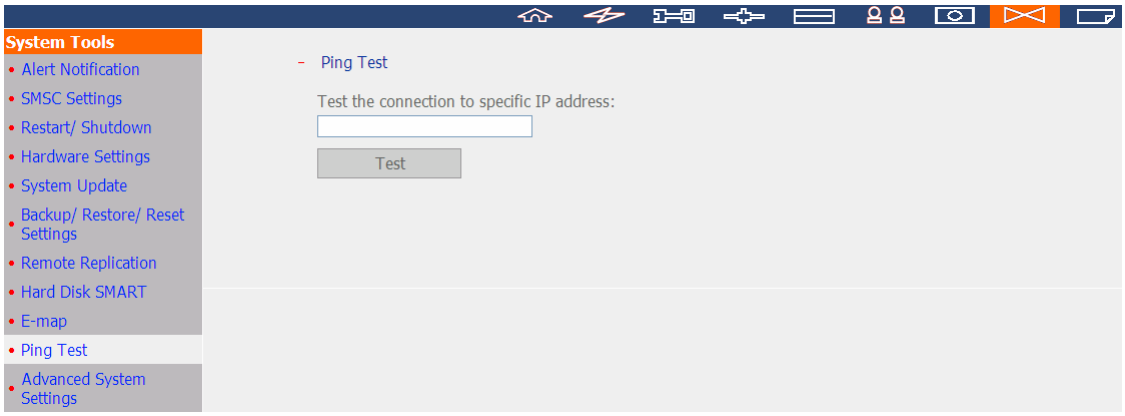
You can upload an E-map to VioStor to illustrate the location of the IP cameras.

1. To upload an E-map, click 'Browse' and select the file (JPEG only). Then click 'Upload'.
2. You can change the caption of the E-map and click 'Apply'.
3. After uploading the E-map, click 'Test' to view the map.



6.7.10 Ping Test

To test the connection to an IP address, enter the IP address and click 'Test'.

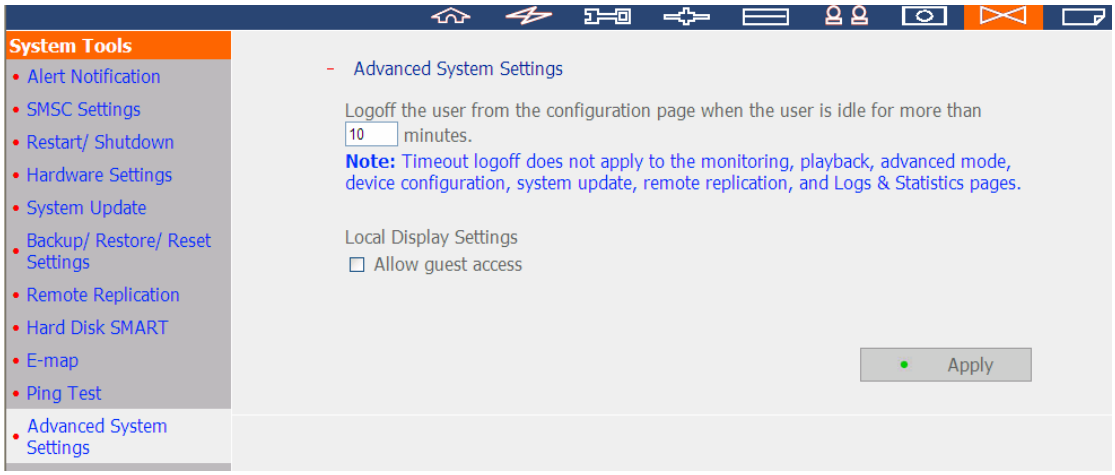


6.7.11 Advanced System Settings

You can set the timeout period to log off the users from the configuration page of the NVR when the idling time has reached.

To allow guest access to the monitoring screen of the NVR by local display, select 'Allow guest access'.

Note: The timeout logoff does not apply to the monitoring, playback, advanced mode, device configuration, system update, remote replication, and logs & statistics pages.

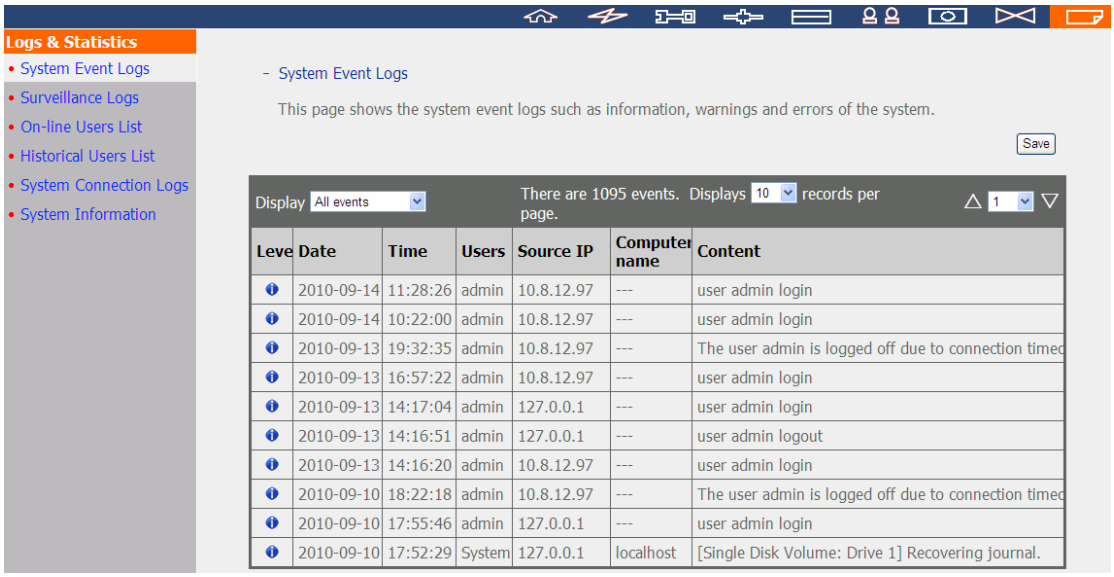


6.8 Logs & Statistics

6.8.1 System Event Logs

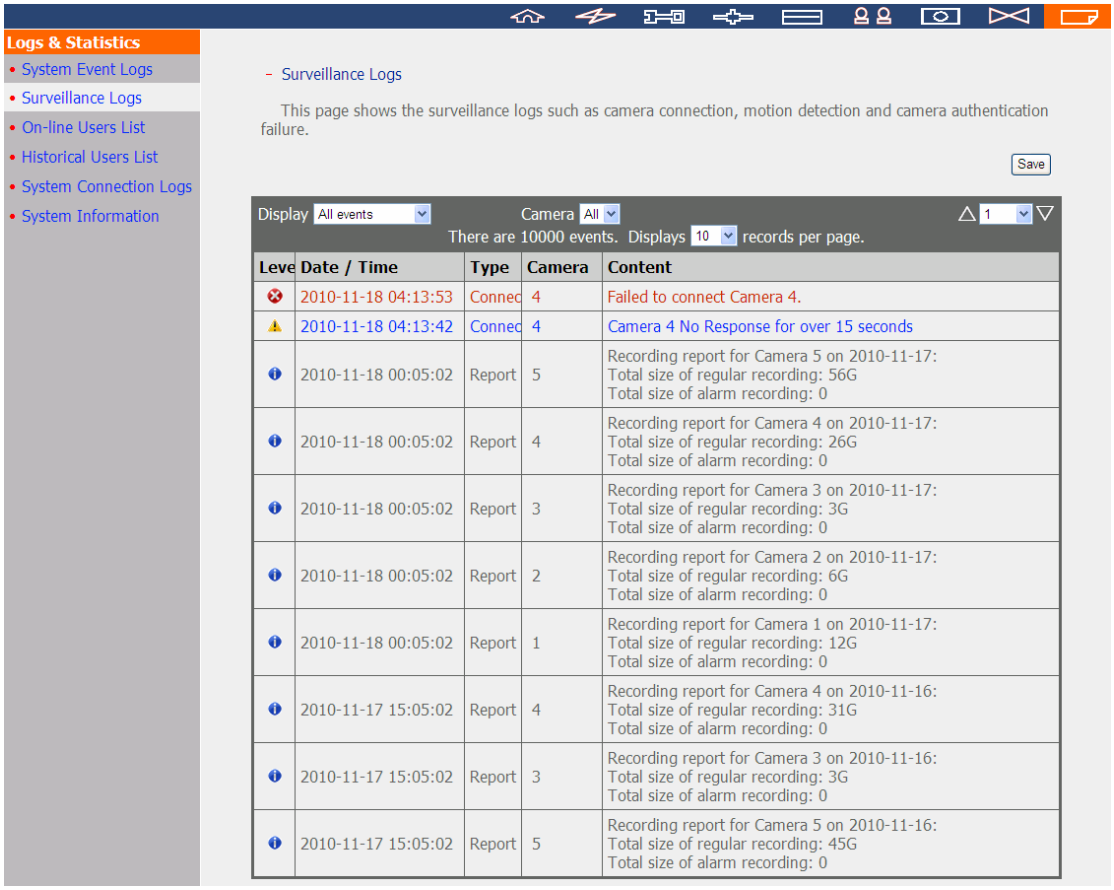
The NVR can save maximum 10,000 recent event logs, including warning, error, and information messages. In case of system malfunction, the event logs (only in English) can be retrieved to analyse the system problems.

Click 'Save' to save the logs as a CSV file.


Logs & Statistics
• System Event Logs
• Surveillance Logs
• On-line Users List
• Historical Users List
• System Connection Logs
• System Information
- System Event Logs
This page shows the system event logs such as information, warnings and errors of the system.
Save
Display All events
There are 1095 events. Displays 10 records per page.
1
Leve Date Time Users Source IP Computer name Content
2010-09-14 11:28:26 admin 10.8.12.97 --- user admin login
2010-09-14 10:22:00 admin 10.8.12.97 --- user admin login
2010-09-13 19:32:35 admin 10.8.12.97 --- The user admin is logged off due to connection timed
2010-09-13 16:57:22 admin 10.8.12.97 --- user admin login
2010-09-13 14:17:04 admin 127.0.0.1 --- user admin login
2010-09-13 14:16:51 admin 127.0.0.1 --- user admin logout
2010-09-13 14:16:20 admin 10.8.12.97 --- user admin login
2010-09-10 18:22:18 admin 10.8.12.97 --- The user admin is logged off due to connection timed
2010-09-10 17:55:46 admin 127.0.0.1 --- user admin login
2010-09-10 17:52:29 System 127.0.0.1 localhost [Single Disk Volume: Drive 1] Recovering journal.

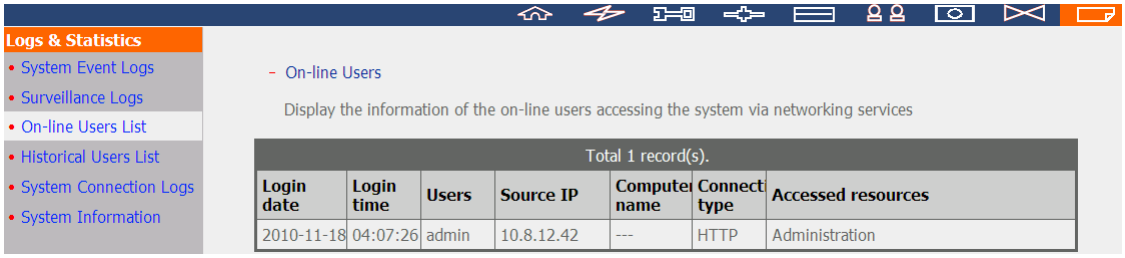
6.8.2 Surveillance Logs

This page shows the surveillance logs such as camera connection, motion detection, and camera authentication failure.


Logs & Statistics
• System Event Logs
• Surveillance Logs
• On-line Users List
• Historical Users List
• System Connection Logs
• System Information
- Surveillance Logs
This page shows the surveillance logs such as camera connection, motion detection and camera authentication failure.
Save
Display All events
Camera All
1
There are 10000 events. Displays 10 records per page.
Leve Date / Time Type Camera Content
2010-11-18 04:13:53 Connec 4 Failed to connect Camera 4.
2010-11-18 04:13:42 Connec 4 Camera 4 No Response for over 15 seconds
2010-11-18 00:05:02 Report 5 Recording report for Camera 5 on 2010-11-17: Total size of regular recording: 56G Total size of alarm recording: 0
2010-11-18 00:05:02 Report 4 Recording report for Camera 4 on 2010-11-17: Total size of regular recording: 26G Total size of alarm recording: 0
2010-11-18 00:05:02 Report 3 Recording report for Camera 3 on 2010-11-17: Total size of regular recording: 3G Total size of alarm recording: 0
2010-11-18 00:05:02 Report 2 Recording report for Camera 2 on 2010-11-17: Total size of regular recording: 6G Total size of alarm recording: 0
2010-11-18 00:05:02 Report 1 Recording report for Camera 1 on 2010-11-17: Total size of regular recording: 12G Total size of alarm recording: 0
2010-11-17 15:05:02 Report 4 Recording report for Camera 4 on 2010-11-16: Total size of regular recording: 31G Total size of alarm recording: 0
2010-11-17 15:05:02 Report 3 Recording report for Camera 3 on 2010-11-16: Total size of regular recording: 3G Total size of alarm recording: 0
2010-11-17 15:05:02 Report 5 Recording report for Camera 5 on 2010-11-16: Total size of regular recording: 45G Total size of alarm recording: 0

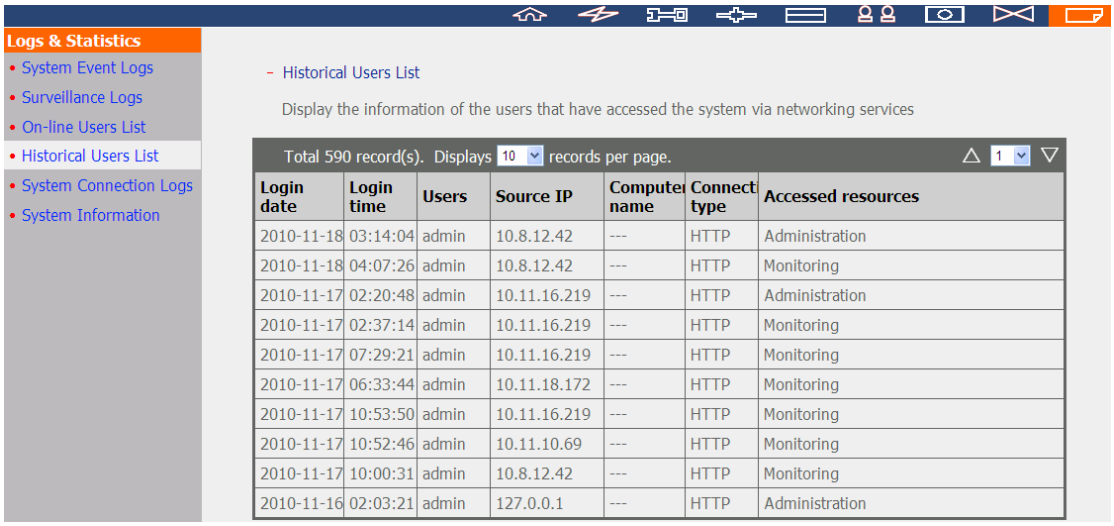
6.8.3 On-line Users List

This page shows the information of the currently active users, e.g. the user name, IP address, and login time.



6.8.4 Historical Users List

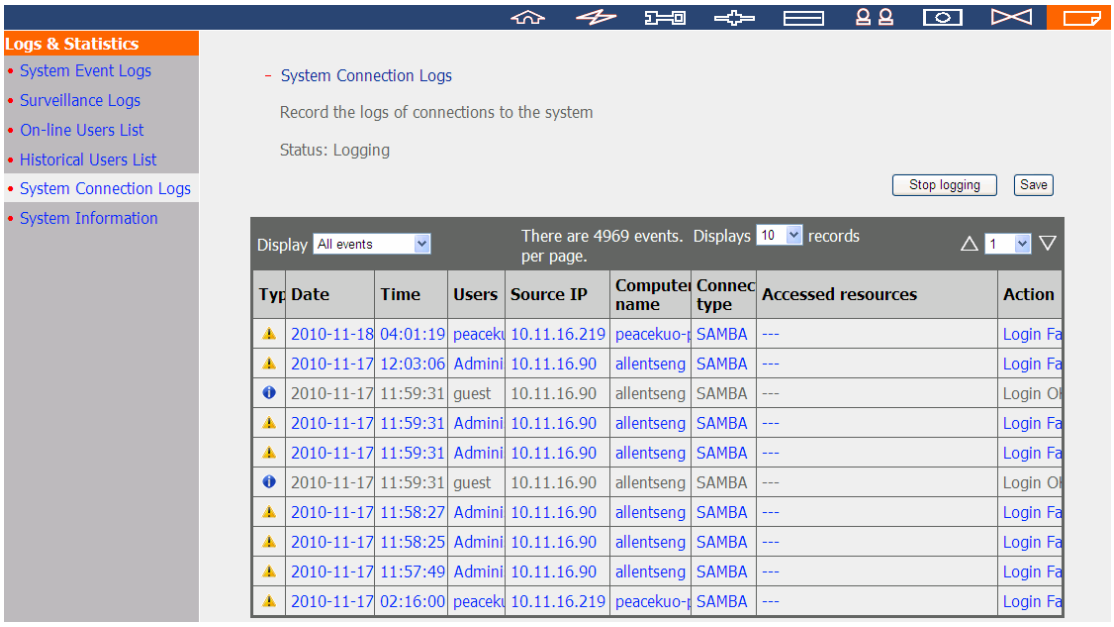
This page shows the information of the users who have logged in the system including the user name, IP address, login time, and the services they have accessed etc.


Logs & Statistics
• System Event Logs
• Surveillance Logs
• On-line Users List
• Historical Users List
• System Connection Logs
• System Information
- Historical Users List
Display the information of the users that have accessed the system via networking services
Total 590 record(s). Displays 10 records per page.
Login date
Login time
Users
Source IP
Computer name
Connect type
Accessed resources
2010-11-18 03:14:04 admin 10.8.12.42 --- HTTP Administration
2010-11-18 04:07:26 admin 10.8.12.42 --- HTTP Monitoring
2010-11-17 02:20:48 admin 10.11.16.219 --- HTTP Administration
2010-11-17 02:37:14 admin 10.11.16.219 --- HTTP Monitoring
2010-11-17 07:29:21 admin 10.11.16.219 --- HTTP Monitoring
2010-11-17 06:33:44 admin 10.11.18.172 --- HTTP Monitoring
2010-11-17 10:53:50 admin 10.11.16.219 --- HTTP Monitoring
2010-11-17 10:52:46 admin 10.11.10.69 --- HTTP Monitoring
2010-11-17 10:00:31 admin 10.8.12.42 --- HTTP Monitoring
2010-11-16 02:03:21 admin 127.0.0.1 --- HTTP Administration

6.8.5 System Connection Logs

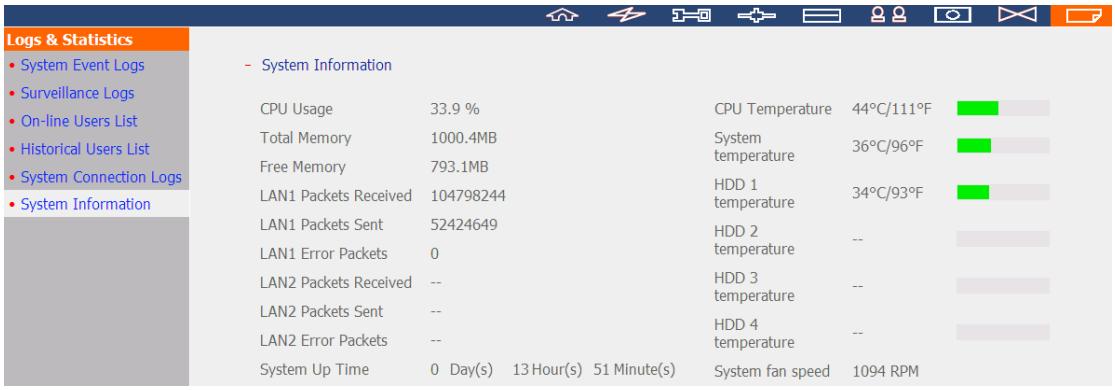
The connection logs to the NVR by samba, FTP, AFP, HTTP, HTTPS, Telnet, and SSH are recorded on this page.

You can select to start or stop the logging. The file transfer performance may be slightly affected by enabling the event logging.


Logs & Statistics
• System Event Logs
• Surveillance Logs
• On-line Users List
• Historical Users List
• System Connection Logs
• System Information
System Connection Logs
Record the logs of connections to the system
Status: Logging
Stop logging
Save
Display All events
There are 4969 events. Displays 10 records per page.
Typ Date Time Users Source IP Computer name Connec type Accessed resources Action
2010-11-18 04:01:19 peaceku 10.11.16.219 peacekuo-[SAMBA --- Login Fa
2010-11-17 12:03:06 Admini 10.11.16.90 allentseng SAMBA --- Login Fa
2010-11-17 11:59:31 guest 10.11.16.90 allentseng SAMBA --- Login Ol
2010-11-17 11:59:31 Admini 10.11.16.90 allentseng SAMBA --- Login Fa
2010-11-17 11:59:31 Admini 10.11.16.90 allentseng SAMBA --- Login Fa
2010-11-17 11:59:31 guest 10.11.16.90 allentseng SAMBA --- Login Ol
2010-11-17 11:58:27 Admini 10.11.16.90 allentseng SAMBA --- Login Fa
2010-11-17 11:58:25 Admini 10.11.16.90 allentseng SAMBA --- Login Fa
2010-11-17 11:57:49 Admini 10.11.16.90 allentseng SAMBA --- Login Fa
2010-11-17 02:16:00 peaceku 10.11.16.219 peacekuo-[SAMBA --- Login Fa

6.8.6 System Information

This page shows the system information, such as the CPU usage, memory, and system temperature.



Chapter 7. System Maintenance

This section provides a general overview of the system maintenance.

7.1 Reset the Administrator Password and Network Settings

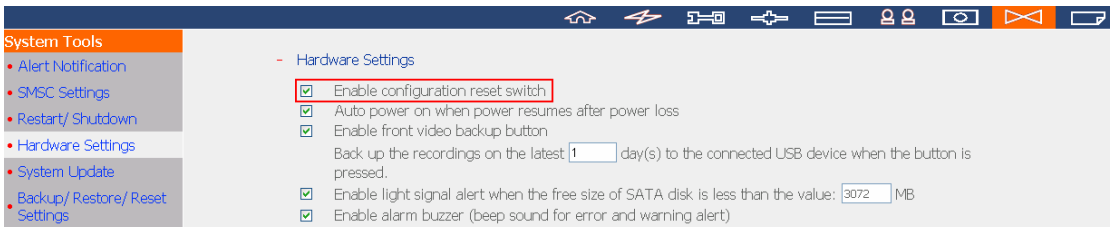
To reset the administrator password and the network settings, press the reset button of the server for five seconds. A beep sound will be heard.

After resetting the system, you can login the server with the default user name and password:

Default user name: **admin***
Password: **admin**

*If you are using the VS-201/VS-101/NVR-104, the default login name is 'administrator' and the password is 'admin'.

Note: To reset the system by the reset button, the option 'Enable configuration reset switch' in the 'Hardware Settings' must be activated.


System Tools
Alert Notification
SMSC Settings
Restart/ Shutdown
Hardware Settings
System Update
Backup/ Restore/ Reset Settings
Hardware Settings
Enable configuration reset switch
Auto power on when power resumes after power loss
Enable front video backup button
Back up the recordings on the latest 1 day(s) to the connected USB device when the button is pressed.
Enable light signal alert when the free size of SATA disk is less than the value: 3072 MB
Enable alarm buzzer (beep sound for error and warning alert)

7.2 Power Outage or Abnormal Shutdown

In case of power outage or improper shutdown of the server, the server will resume to the state before it is shut down. If your server does not function properly after the restart, please do the following:

1. If the system configuration were lost, configure the system again.
2. If the problem persists, contact the technical support.

7.3 Hot Swapping Hard Disk Drives (RAID Configuration)

This function is not supported by the one-bay NVR models.

When a hard disk drive (HDD) of a RAID configuration fails, the failed HDD can be replaced by a new one immediately without shutting down the server, and the recording data can be reserved. However, if the HDD are working properly and the recording is in process, do not hot swap the HDD to avoid damage to the HDD or recording files.

Warning: You are strongly recommended to turn OFF the server before replacing the HDD to reduce the risk of electric shock.

Chapter 8. LCD Panel

* This section is applicable to the NVR models with an LCD panel only.

The NVR provides a handy LCD panel for you to perform the disk configuration and view the system information.

When the NVR has started up, you will be able to view the server name and the IP address:

For the first time installation, the LCD panel shows the number of the hard disk drives detected and the IP address. You may select to configure the hard drives.

Number of hard drives detected	Default disk configuration	Available disk configuration options*
1	Single	Single
2	RAID 1	Single -> JBOD ->RAID 0 -> RAID 1
3	RAID 5	Single -> JBOD -> RAID 0 -> RAID 5
4 or above	RAID 5	Single ->JBOD -> RAID 0 -> RAID 5 -> RAID 6

*Press the 'Select' button to choose the option, and press the 'Enter' button to confirm.

For example, when you turn on the NVR with 5 hard drives installed, the LCD panel shows:

You can press the 'Select' button to browse more options, e.g. RAID 6.
Press the 'Enter' button and the following message shows. Press the 'Select' button to select 'Yes' to confirm.

When you execute RAID 1, RAID 5, or RAID 6 configuration, the system will initialize the hard drives, create the RAID configuration, format the RAID configuration, and mount it as a volume on the NVR. The progress will be shown on the LCD panel. When it reaches 100%, you can access the RAID volume, e.g. create share folders and upload files to the folders on the NVR. In the meantime, to make sure the stripes and blocks in the RAID configuration are ready, the NVR will execute RAID synchronization and the progress will be shown on the 'Disk Management' > 'Volume Management' page. The synchronization rate is around 30-60 MB/s (varied by hard disk drive models, system resource usage, etc.).

Note: If a member drive of the RAID configuration was lost during the synchronization, the RAID volume will enter degraded mode. The volume data is still accessible. If you add a new member drive to the volume, the volume will start to rebuild. You can check the status on the 'Volume Management' page.

When the configuration has finished, the server name and the IP address will be shown. If the NVR fails to create the disk volume, the following message will be shown.

View the system information by the LCD panel

When the LCD panel shows the server name and the IP address, you may press the 'Enter' button to enter the Main Menu. The Main Menu consists of the following items:

1. TCP/IP
2. Physical disk
3. Volume
4. System
5. Shut down
6. Reboot
7. Password
8. Back

1. TCP/IP

In TCP/IP, you can view the following options:

- 1.1 LAN IP Address
- 1.2 LAN Subnet Mask
- 1.3 LAN Gateway
- 1.4 LAN PRI. DNS
- 1.5 LAN SEC. DNS
- 1.6 Enter Network Settings
  - 1.6.1 Network Settings – DHCP
  - 1.6.2 Network Settings – Static IP*
  - 1.6.3 Network Settings – BACK
- 1.7 Back to Main Menu

* In 'Network Settings – Static IP', you can configure the IP address, subnet mask, gateway, and the DNS of LAN 1 and LAN 2.

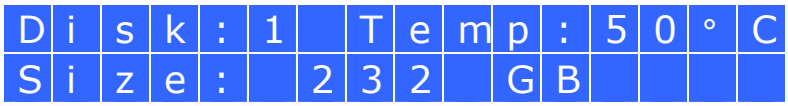
2. Physical disk

In Physical disk, you can view the following options:

2.1 Disk Info

2.2 Back to Main Menu

The disk info shows the temperature and the capacity of the hard disk drive.



3. Volume

This section shows the disk configuration of the NVR. The first line shows the RAID configuration and storage capacity; the second line shows the member drive number of the configuration.

If there is more than one volume, press the 'Select' button to view the information. The following table shows the description of the LCD messages for the RAID 5 configuration.

LCD Display	Drive configuration
RAID5+S	RAID5+spare
RAID5 (D)	RAID 5 degraded mode
RAID 5 (B)	RAID 5 rebuilding
RAID 5 (S)	RAID 5 re-synchronizing
RAID 5 (U)	RAID 5 is unmounted
RAID 5 (X)	RAID 5 non-activated

4. System

This section shows the system temperature and the rotation speed of the system fan.

5. Shut down

Use this option to turn off the NVR. Press the 'Select' button to select 'Yes'. Then press the 'Enter' button to confirm.

6. Reboot

Use this option to restart the NVR. Press the 'Select' button to select 'Yes'. Then press the 'Enter' button to confirm.

7. Password

The default password of the LCD panel is blank. Enter this option to change the password of the LCD panel. Select 'Yes' to continue.

You may enter a password of maximum 8 numeric characters (0-9). When the cursor moves to 'OK', press the 'Enter' button. Verify the password to confirm the changes.

8. Back

Select this option to return to the main menu.

System Messages

When the NVR encounters system error, an error message will be shown on the LCD panel. Press the 'Enter' button to view the message. Press the 'Enter' button again to view the next message.

System Message	Description
Sys. Fan Failed	The system fan fails
Sys. Overheat	The system overheats
HDD Overheat	The hard drive overheats
CPU Overheat	The CPU overheats
Network Lost	Both LAN 1 and LAN 2 are disconnected in failover or load-balancing mode
LAN1 Lost	LAN 1 is disconnected
LAN2 Lost	LAN 2 is disconnected
HDD Failure	The hard drive fails
Vol1 Full	The volume is full
HDD Ejected	The hard drive is ejected
Vol1 Degraded	The volume is in degraded mode
Vol1 Unmounted	The volume is unmounted
Vol1 Nonactivate	The volume is not activated

Chapter 9. Troubleshooting

1. The monitoring screen did not display.

Please check the following:

A. Check if you have installed the ActiveX add-on when logging in the monitoring page of VioStor. Set the security level to 'Medium' or lower in Internet Options of the IE browser.

B. VioStor is turned on and the network is correctly connected.

C. The IP address of VioStor does not conflict with other devices in the same subnet.

D. Check the IP address settings of VioStor and your computer. Make sure they are on the same subnet.

2. A channel on the monitoring page cannot be displayed.

Please check the following:

A. The IP address, the name, and the password entered on the camera configuration page are correct. You can use the 'Test' function to verify the connection.

B. When the PC and the IP camera are on the same subnet, while VioStor is on another subnet, you will be unable to view the monitoring screen from the PC. You can solve the problems by the following methods.
Method 1: Enter the IP address of the IP camera as the WAN IP in VioStor.
Method 2: Configure the router to allow internal access to the public IP address and the mapped ports of the IP cameras.

3. The recording is not working properly.

A. Make sure each hard disk tray is correctly locked on VioStor.

B. When only one hard disk drive is installed, make sure the HDD is installed in the tray of HDD 1. The HDD 1 should be installed on top of the HDD 2.

C. Check if the recording function is enabled on the Camera Configuration page (the function is enabled by default). Make sure the IP address, the login name, and the password of the IP camera are correct.

D. If the above items are verified to work properly while the status LED flashes green, the HDD may be damaged or cannot be detected. In this case, turn off VioStor and install a new hard disk. If the problem persists, please contact the technical support.

Note: If you have updated the configurations of VioStor, the recording will be stopped temporarily and restart again shortly.

4. I cannot login the administration page of VioStor.

Please check if you have the administrator authority. Only administrators are allowed to login VioStor.

5. The live video is not clear or smooth sometimes.

A. The image quality may be restricted and interfered by the network traffic.
B. When there are multiple accesses to the IP camera or VioStor, the image quality will be reduced. It is recommended to allow only three simultaneous connections to the monitoring page at maximum. For higher recording performance, do not open too many IE browsers to view the live video.
C. The same IP camera may be shared by multiple VioStor servers for recording at the same time.

6. The alarm recording does not function.

A. Please login the administration page of VioStor and go to 'Camera Settings' > 'Alarm Settings'. Make sure the alarm recording is enabled for the IP camera.
B. When using Panasonic BB-HCM311 cameras, the camera firmware must be upgraded to v1.3 for the alarm recording to work properly.
C. If VioStor is installed behind a router while the IP camera is not, the alarm recording will not work.
D. When the alarm recording is enabled, make sure you have entered the number of days that the alarm recordings will be retained in 'Camera Settings' > 'Advanced Settings'. Otherwise, the recordings may be overwritten.

7. The estimated storage space for recording displayed on the 'Recording Settings' page is different from the actual value.

This estimated value is a reference value only. The actual disk space may vary according to the image contents, the network environment, and the performance of the IP cameras.

8. **The monitoring screen shows horizontal lines when the resolution of Panasonic BB-HCM381 camera is set as 640x480.**

   This is due to the interlaced scanning design of the camera. Please login the configuration page of the IP camera and go to 'Setup' > 'Camera' > 'Vertical Resolution'. Configure the resolution setting as 240.

9. **The E-map cannot be displayed correctly.**

   Please check the file format. VioStor supports E-map in JPEG only.

10. **I cannot find VioStor by the QNAP Finder.**

    A. Check if VioStor is turned on.
    B. Make sure the computer on which Finder is run and VioStor have been connected to the network.
    C. Refresh the QNAP Finder and check the IP address of VioStor. Make sure you have turned off all the firewall software on your computer.

11. **The changes to the system configuration did not take effect.**

    After changing the settings on the administration page, click 'Apply' to apply the changes.

12. **The monitoring page cannot be fully displayed in Internet Explorer.**

    If you are using the zooming function of Internet Explorer 7, the page may not be displayed properly. Please click F5 to refresh the page.

13. **I cannot use the SMB, FTP, and Web File Manager services of VioStor.**

    A. Login VioStor as an administrator. Go to 'Network Settings' > 'File Services' and check if these three functions are enabled.
    B. If VioStor is installed behind a router, the SMB and FTP services can only be accessed from the same subnet. Please refer to Appendix B for details.

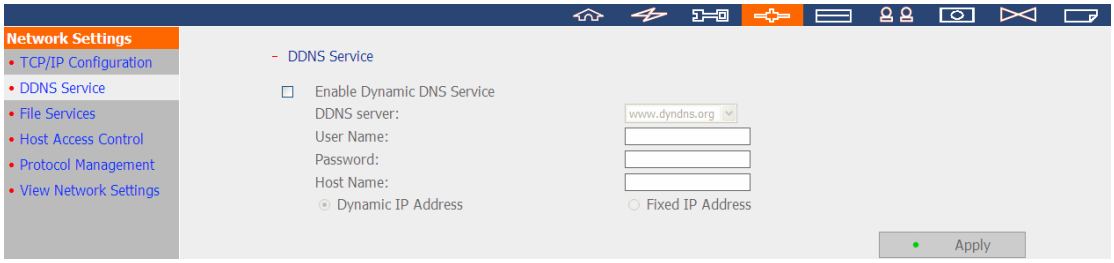
14. **VioStor takes too long to restart.**

    When VioStor takes more than 5 minutes to restart, turn off the power and turn on the server again. If the problem persists, please contact the technical support.

Appendix A Dynamic Domain Name Registration

VioStor supports the DDNS service provided by DynDNS. You can go to the DynDNS website http://www.dyndns.org/ to register a dynamic domain name.

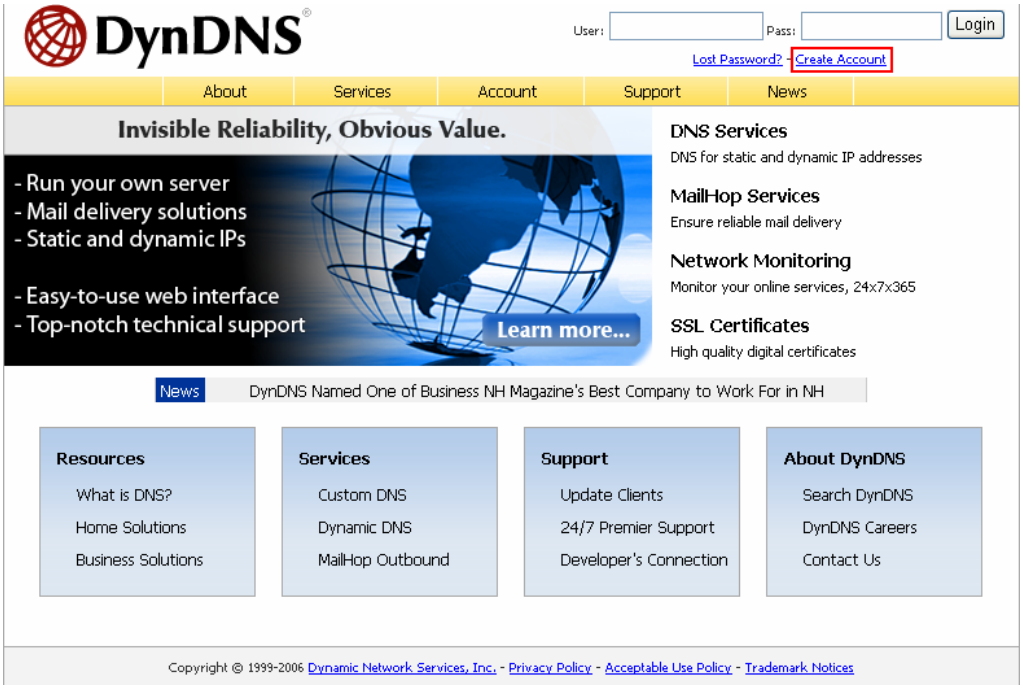
Configure and activate the DDNS service to enable the Internet users to access VioStor by this dynamic domain name. When the ISP assigns a new WAN IP address, VioStor will update the new address to the DynDNS server automatically.



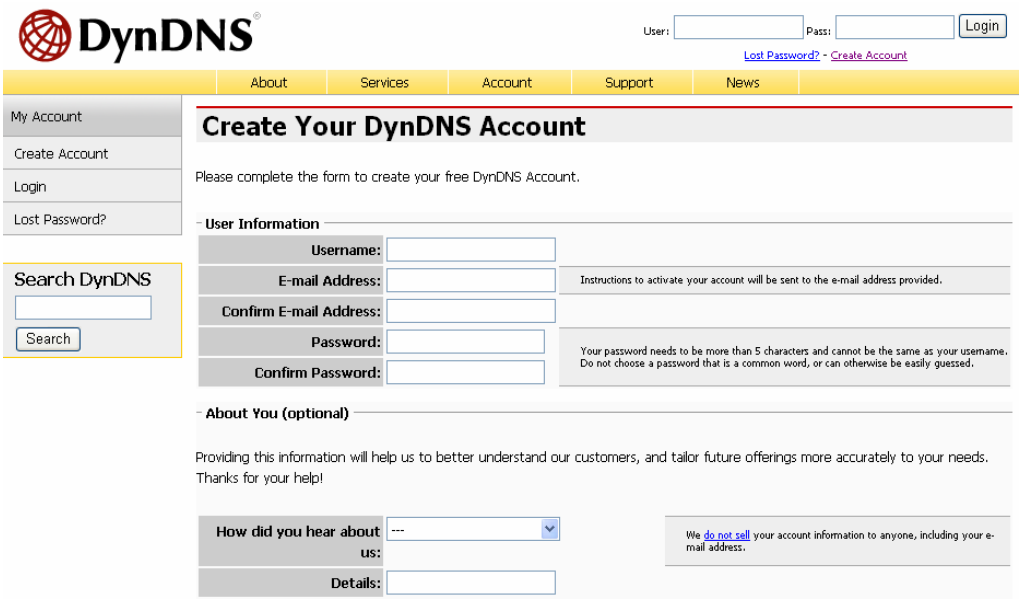
Registration Procedure

Please follow the steps below to register a dynamic domain name. This guide is for reference only. If there are any changes, please refer to the instructions or the documents on the web site.

1. Open the web browser and connect to http://www.dyndns.com/. Click 'Create Account' to begin the registration.

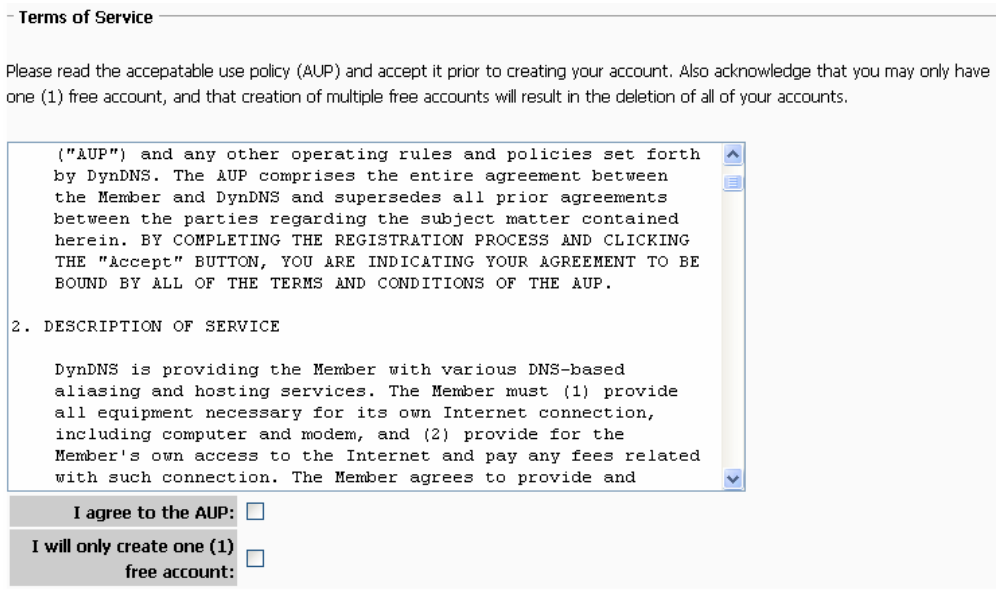


2. Enter the information required to register the account.

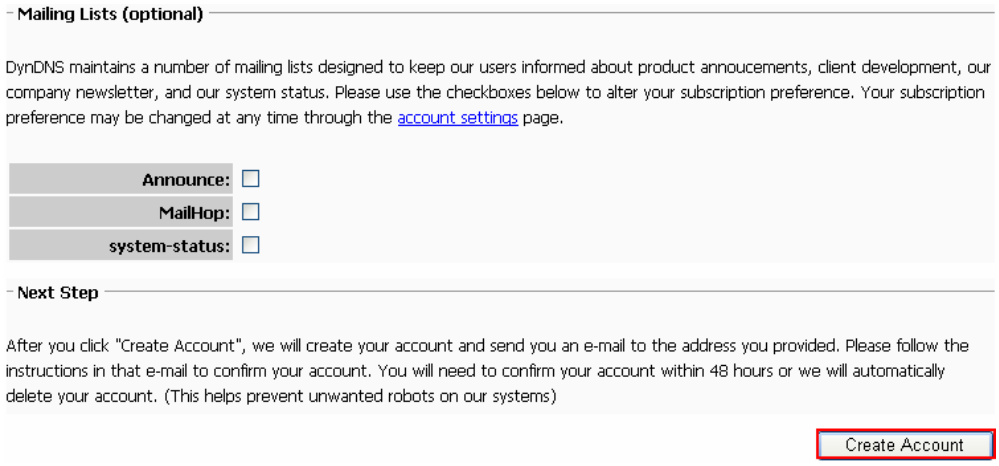

DynDNS
User:
Pass:
Login
Lost Password? - Create Account
About
Services
Account
Support
News
My Account
Create Account
Login
Lost Password?
Search DynDNS
Search
Create Your DynDNS Account
Please complete the form to create your free DynDNS Account.
User Information
Username:
E-mail Address:
Instructions to activate your account will be sent to the e-mail address provided.
Confirm E-mail Address:
Password:
Confirm Password:
Your password needs to be more than 5 characters and cannot be the same as your username. Do not choose a password that is a common word, or can otherwise be easily guessed.
About You (optional)
Providing this information will help us to better understand our customers, and tailor future offerings more accurately to your needs. Thanks for your help!
How did you hear about us:

We do not sell your account information to anyone, including your e-mail address.
Details:

3. Accept the terms of service.


Terms of Service
Please read the accepatable use policy (AUP) and accept it prior to creating your account. Also acknowledge that you may only have one (1) free account, and that creation of multiple free accounts will result in the deletion of all of your accounts.
("AUP") and any other operating rules and policies set forth by DynDNS. The AUP comprises the entire agreement between the Member and DynDNS and supersedes all prior agreements between the parties regarding the subject matter contained herein. BY COMPLETING THE REGISTRATION PROCESS AND CLICKING THE "Accept" BUTTON, YOU ARE INDICATING YOUR AGREEMENT TO BE BOUND BY ALL OF THE TERMS AND CONDITIONS OF THE AUP.
2. DESCRIPTION OF SERVICE
DynDNS is providing the Member with various DNS-based aliasing and hosting services. The Member must (1) provide all equipment necessary for its own Internet connection, including computer and modem, and (2) provide for the Member's own access to the Internet and pay any fees related with such connection. The Member agrees to provide and
I agree to the AUP:
I will only create one (1) free account:

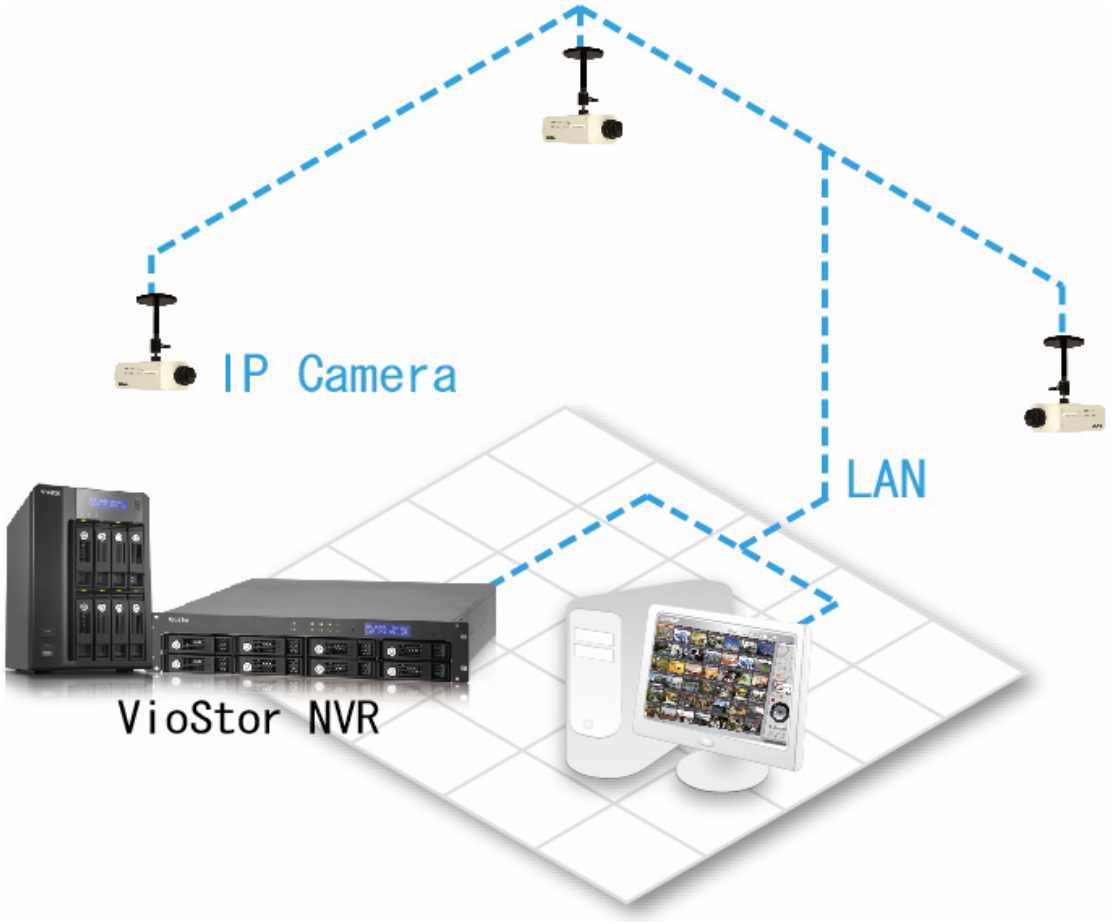
4. Configure the mailing lists if necessary. Then click 'Create Account'.


Mailing Lists (optional)
DynDNS maintains a number of mailing lists designed to keep our users informed about product annoucements, client development, our company newsletter, and our system status. Please use the checkboxes below to alter your subscription preference. Your subscription preference may be changed at any time through the account settings page.
Announce:
MailHop:
system-status:
Next Step
After you click "Create Account", we will create your account and send you an e-mail to the address you provided. Please follow the instructions in that e-mail to confirm your account. You will need to confirm your account within 48 hours or we will automatically delete your account. (This helps prevent unwanted robots on our systems)
Create Account

5. When your account has been successfully created, a confirmation email will be sent to you. Follow the instructions in the email to activate your account. When you have finished the confirmation process, you can apply for your own dynamic domain name. Please refer to the website of the DDNS provider for more information.

Appendix B Configuration Examples

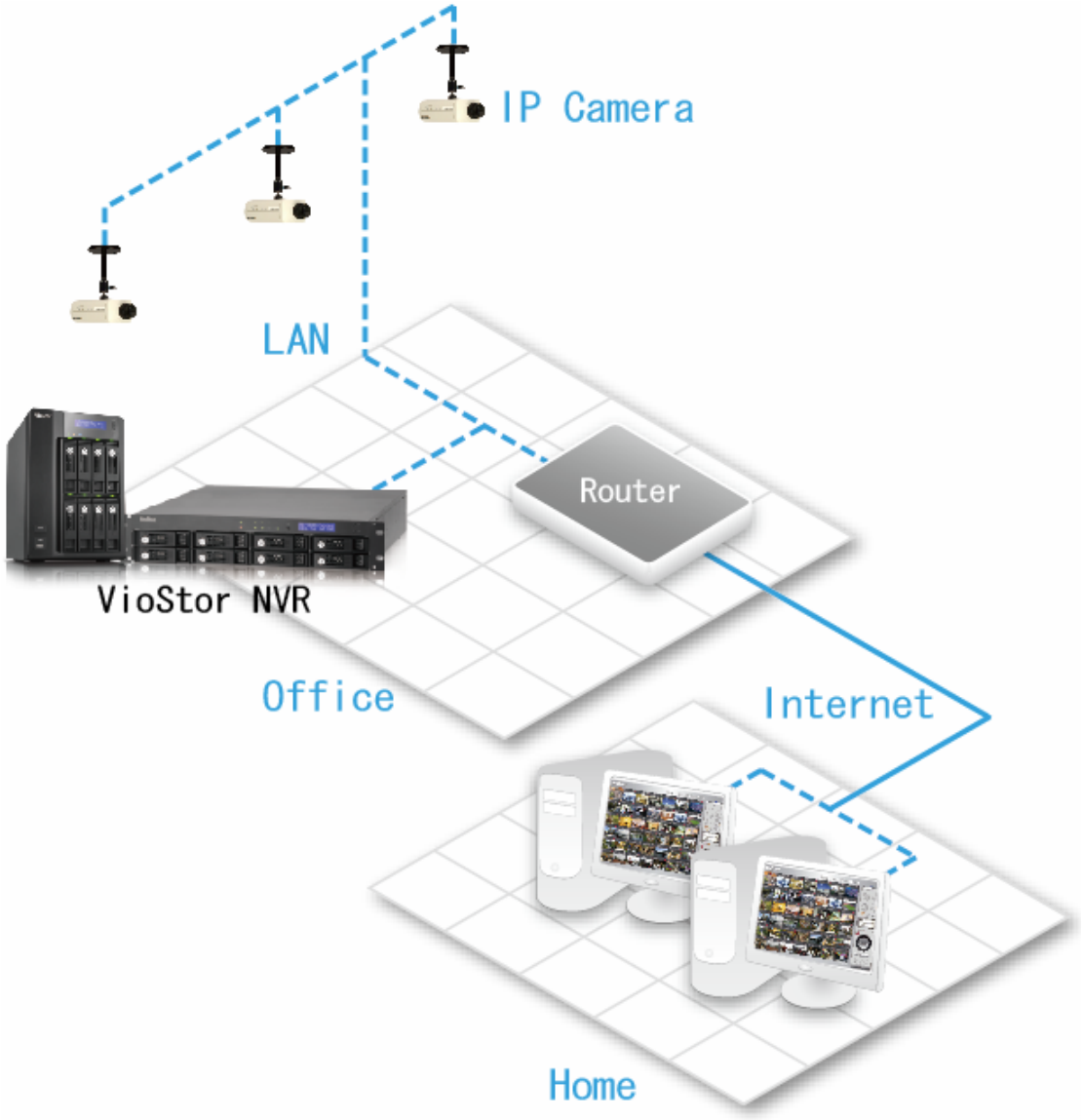
Environment 1: VioStor, the IP camera, and the monitoring PC are all on the same network



	IP address
VioStor	*192.168.1.1*
PC	*192.168.1.100*
Camera 1	*192.168.1.101*
Camera 2	*192.168.1.102*
Camera 3	*192.168.1.103*

In the example, add the IP cameras to VioStor by entering the IP addresses of the IP cameras.

Environment 2: VioStor and the IP camera are installed behind the router, while the monitoring PC is located remotely



	IP address	**Mapped port on the router**
VioStor	*192.168.1.1*	*8000*
Camera 1	*192.168.1.101*	*8001*
Camera 2	*192.168.1.102*	*8002*
Camera 3	*192.168.1.103*	*8003*
Router public IP	*219.87.144.205*	
PC	*10.8.10.100*	

To allow a remote PC to connect to VioStor and the IP cameras, you need to:

Step 1. Set up the port mapping (virtual server) on the router.

From	Forward to
219.87.144.205:8000	*192.168.1.1:80*
219.87.144.205:8001	*192.168.1.101:80*
219.87.144.205:8002	*192.168.1.102:80*
219.87.144.205:8003	*192.168.1.103:80*

Step 2. Add the IP camera to VioStor by entering the IP address of the IP camera in the 'IP Address' settings. Enter the public IP address of the router and the mapped ports of the IP camera in the 'WAN IP Address' settings.

Note: When configuring the IP camera, the WAN IP and LAN IP must be entered.

To open FTP (port 21) and SMB (port 445) of VioStor on WAN, configure the following port mapping settings:

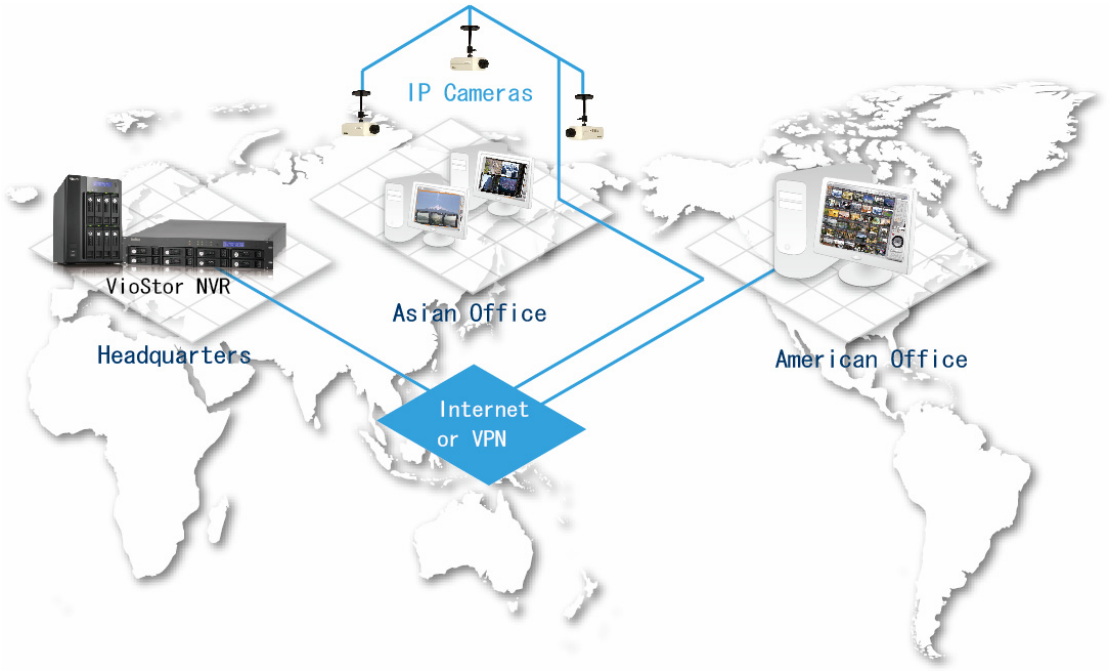
From	Forward to
219.87.144.205:21	*192.168.1.1:21*
219.87.144.205:139	*192.168.1.1:139*
219.87.144.205:445	*192.168.1.1:445*

After finishing the above two steps, you can access VioStor over WAN by entering the IP address http://219.87.144.205:8000 in the IE browser. Then login VioStor with the correct user name and password.

If the port specified to VioStor is 80, you can enter http://219.87.144.205 to access VioStor as the default port of HTTP is 80.

Note: If the router does not use a fixed IP, you will need to configure the DDNS settings on the router. Other configurations are the same as above.

Environment 3: VioStor and the IP camera are all located remotely



	IP address
VioStor	*219.87.144.205*
Camera 1	*61.62.100.101*
Camera 2	*61.62.100.102*
Camera 3	*61.62.100.103*

In this example, add the IP camera to VioStor by adding its IP address to the 'IP Address' settings.

Note: If a particular port is assigned to connect to the IP camera, specify the port in the system configuration.

Environment 4: VioStor and the IP camera are installed behind the router

	IP address
VioStor 1	192.168.1.101
VioStor 2	192.168.1.102
VioStor 3	192.168.1.103
Router public IP	219.87.145.205

In the example, to allow a remote PC to access each VioStor by FTP, you need to:

Step 1. Set up the port mapping (virtual server) on the router

	From	**Forward to**
VioStor 1	219.87.145.205:2001	192.168.1.101:21
VioStor 2	219.87.145.205:2002	192.168.1.102:21
VioStor 3	219.87.145.205:2003	192.168.1.103:21

You can connect to VioStor 1 by ftp://219.87.145.205:2001

You can connect to VioStor 2 by ftp://219.87.145.205:2002

You can connect to VioStor 3 by ftp://219.87.145.205:2003

Step 2. Enable FTP port mapping on VioStor

To connect to each VioStor via FTP by clicking 'FTP' on the playback page of each VioStor, enable FTP port mapping in 'Network Settings' > 'File Services' on the system administration page and set the mapped port number.

	Mapped port
VioStor 1	2001
VioStor 2	2002
VioStor 3	2003

After finishing the above two steps, you can access VioStor via FTP by entering the IP address in the IE browser or clicking 'FTP' on the playback page. Then login VioStor by the correct user name and password.

Technical Support

QNAP provides dedicated online support and customer service via instant messenger. You can contact us by the following means:

Online Support: http://www.qnapsecurity.com/onlinesupport.asp
MSN: q.support@hotmail.com
Skype: qnapskype

Technical Support in the USA and Canada:
Email: q_supportus@qnap.com
TEL: 909-595-2819 ext. 185
Address: 166 University Parkway, Pomona CA 9176
Service Hours: 08:00-17:00 (GMT- 08:00 Pacific Time, Monday to Friday)

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Version 3, 29 June 2007

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Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

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